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THE POSITIVE OUTCOME OF PHILOSOPHY

The Nature of Human Brain Work
Letters on Logic. The Positive
Outcome of Philosophy

BY

JOSEPH DIETZGEN

TRANSLATED BY ERNEST UNTERMANN

WITH AN INTRODUCTION BY DR. ANTON PANNEKOEK
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INTRODUCTION

THE POSITION AND SIGNIFICANCE OF J. DIETZGEN'S PHILOSOPHICAL WORKS

BY

DR. ANTON PANNEKOEK

In the history of philosophy we see before us the consecutive forms of the thoughts of the ruling classes of society on life and on the world at large. This class thought appears after the primitive communism has given way to a society with class antagonisms, at a stage when the wealth of the members of the ruling class gave them leisure time and thus stimulated them to turn their attention to the productions of the mind. The beginning of this thought is found in classic Greece. But it assumed its clearest and best developed form when the modern bourgeoisie had become the ruling class in capitalistic Europe and the thinkers gave expression to the ideas of this class. The characteristic mark of these ideas is dualism, that is to say the misunderstood contrast between thinking and being, between nature and spirit, the result of the mental unclearness of this class and of its incapacity to see the things of the world in their true interconnection. This mental state is but the expression of the division of mankind into classes and of the uncompre-

hended nature of social production ever since it became a production of goods for exchange.

In times of primitive communism, the conditions of production were clear and easily understood. Things were produced jointly for use and consumed in common. Man was master of his mode of production and thus master of his own fate as far as the superior forces of nature admitted it. Under such conditions, social ideas could not help being simple and clear. There being no clash between personal and social interests, men had no conception of a deep chasm between good and bad. Only the uncontrolled forces of nature stood like unintelligible and mysterious powers, that appeared to them either as well meaning or as evil spirits, above these primitive little societies.

But with the advent of the production of commodities the picture changes. Civilized humanity begins to feel itself somewhat relieved from the hard and ungovernable pressure of fickle natural forces. But now new demons arise out of social conditions. "No sooner did the producers give their products away in exchange instead of consuming them as heretofore, than they lost control of them. They no longer knew what became of their products, and there was a possibility that these products might some day be used for the exploitation and oppression of the producers—The products rule the producers." (Engels) In the production of commodities, it is not the purpose of the individual producer which is accomplished, but rather that which the productive forces back of him are aiming at. Man proposes, but a social power, stronger than himself, disposes; he is no longer master of his fate. The inter-relations of production become complicated and difficult to grasp. While it is true that the individual is the producing unit, yet his individual labor is only a sub-

ordinate part of the whole process of social production, of which he remains a tool. The fruits of the labor of many are enjoyed by a few individuals. The social co-operation is concealed behind a violent competitive struggle of the producers against one another. The interests of the individuals are at war with those of society. Good, that is to say the consideration of the common welfare, is opposed to bad, that is to say the sacrifice of everything to private interests. The passions of men as well as their mental gifts, after they have been aroused, developed, trained, strengthened, and refined in this struggle, henceforth become so many weapons which a superior power turns against their helpless possessors.

Such were the impressions out of which thinking men were obliged to fashion their world-philosophy, while, at the same time, they were members of the possessing classes and had thus an opportunity to employ their leisure for a certain self-study, without, however, being in touch with the source of their impressions, viz., the process of social labor which alone could have enabled them to see through the social origin of their ideas. Men of this class, therefore, were led to the assumption that their ideas emanated from some supernatural and spiritual power or that they were themselves independent supernatural powers. This dualist metaphysical mode of thought has gone through various transformations in the course of time, adapting itself to the evolution of production beginning with ancient slavery, on through the serfdom of the Middle Ages and of mediæval commodity production, to modern capitalism. These successive changes of form are embodied in Grecian philosophy, in the various phases of the Christian religion, and in the modern systems of philosophy.

But we must not regard these systems and religions

for what they generally pass, that is to say, we must not think them to be only repeated unsuccessful attempts to formulate absolute truth. They are merely the incarnations of progressive stages of better knowledge acquired by the human mind about itself and about the universe. It was the aim of philosophical thought to find satisfaction in understanding. And as long as understanding could not wholly be gotten by natural means, there remained always a field for the supernatural and incomprehensible. But by the painstaking mental work of the deepest thinkers, the material of science was ceaselessly increased, and the field of the supernatural and incomprehensible was ever more narrowed. And this is especially the case since the progress of capitalist production has promoted the persistent study of nature. For through this study the human mind was enabled to test its powers by simple, quiet, persistent and fruitful labor in the search for successive parts of truth, and thus to rid itself from the overirritation of hopeless quest after absolute truth. The desire to ascertain the value of these new truths gave rise to the problems of the theory of understanding. The attempts to solve these problems form a permanent part of modern systems of philosophy, which represent a graduated evolution of the theory of understanding. But the supernatural element in these systems prevented their perfection.

Under the impulse of the technical requirements of capitalism, the evolution of natural sciences became a triumphal march of the human mind. Nature was subjugated first through the discovery of its laws by the human mind, and then by the material subordination of the known forces of nature to the human will in the service of our main object, the production of the necessities of life with a minimum expenditure of energy. But this

bright shining light rendered, by contrast, the gloom which surrounded the phenomena of human society only the darker, and capitalism in its development still accentuates this contrast, as it accentuates and thus renders more easily visible and intelligible all contrasts. While the natural sciences dispensed with all mysterious secrecy within their narrower domain, the darkness shrouding the origin of ideas still offered a welcome refuge to the belief in miracles on the spiritual field.

Capitalism is now approaching its decline. Socialism is near. And the vital importance of this transition in human history cannot be stated more strongly than in the words of Marx and Engels: "This concludes the primary history of man. He thereby passes definitely out of the animal kingdom." The social regulation of production makes man fully the master of his own fate. No longer does any mysterious social power then thwart his plans or jeopardise his success. Nor does any mysterious natural force control him henceforth. He is no longer the slave, but the master of nature. He has investigated its effects, understands them, and presses them into his service. For the first time in his history he will then be the ruler of the earth.

We now see that the many centuries that filled the history of civilization were a necessary preparation for socialism, a slow struggle to escape from nature's slavery, a gradual increase of the productivity of labor, up to the point where the necessities of life for all may be obtained almost without exertion. This is the prime merit of capitalism and its justification, that after so many centuries of hardly perceptible progress it taught man to conquer nature by a rapid assault. At the same time it set loose the forces of production and finally transformed and bared the springs of the productive process to such

a degree that they easily could be perceived and grasped by the human mind; this was the indispensable condition for the control of this process.

As never since the first advent of production of commodities there has been such a fundamental revolution, it must necessarily be accompanied by an equally fundamental spiritual revolution. This economic revolution is the conclusion of the long period of class antagonisms and of production of commodities; it carries with it the end of the dualist and supernatural thoughts arising from this source. The mystery of social processes passes away with this period, and the spiritual expression of these mysteries must necessarily disappear with it. The slow development of human thought from ignorance to an ever increased understanding thereby ends its first chapter. This signifies the completion and conclusion of philosophy, which is equivalent to saying that philosophy as such passes out of existence, while its place is taken by the science of the human mind, a part of natural science.

A new system of production sheds its light into the minds of men already before it has fully materialized. The same science which teaches us to understand and thereby to control the social forces, also unfetters the mind from the bewitching effects of those forces. It enables him even now already to emancipate himself from traditional superstitions and ideas which were formerly the expression of things unknown. We may anticipate with our mind the coming time. And thus the ideas which will then dominate are already even now growing within us in a rudimentary form corresponding to the present actual economic development. By this means we are even now enabled to overcome the capitalist philosophy in thought and to soberly and clearly grasp the matter-dependent nature of our spirit.

The completion and the end of philosophy need not wait for the realization of socialist production. The new understanding does not fall from heaven like a meteor. It develops with the social-economic development, first imperfectly and imperceptibly, in a few thinkers who most strongly feel the breath of the approaching time. With the growth of the science of sociology and with that of its practical application, the socialist labor movement, the new understanding simultaneously spreads and gains ground step by step, waging a relentless battle against the traditional ideas to which the ruling classes are clinging. This struggle is the mental companion of the social class struggle.

The methods of the new natural science had already been practiced for a few centuries before the new theory was formulated. It first found vent in the expression of surprise at the great confidence with which men assumed to predict certain phenomena and to point out their connections. Our experience is limited to a few successive observations of the regularity or coincidence of events. But we attribute to natural laws, in which are expressed causal relations of phenomena, a general and necessary applicability which far exceeds our experience. The English thinker Hume was the first who clearly expressed and formulated the question—since called the problem of causality—why men always act in this manner. But as he believed the reason for such action should be sought in the nature of experience alone, experience being the only source of knowledge, and as he did not further investigate the special and distinct part played by the nature of the human mind in this experiential connection, he could not find any satisfactory answer.

Kant, who made the first important step toward the

solution of this question, had been trained in the school of rationalism which then dominated in Germany and which represented an adaptation of mediæval scholasticism to the requirements of increased knowledge. Starting from the thesis that things which are logical in the mind must be real in nature, the rationalists formulated by mere deduction general truths about god, infinity and immortality. Under the influence of Hume, Kant became the critic of rationalism and thus the reformer of philosophy.

The question, how it is that we have knowledge of generally applicable laws in which we have implicit confidence—such as mathematical theses, or the maxim that every change has a cause—was answered by Kant in this way: Experience and science are as much conditioned on properties inherent in the organization of our mind as on the impressions of the outer world. The former properties must necessarily be contained in all experience and science. Therefore everything dependent on this common mental part of science must be perfectly certain and independent of special sense impressions. Common to all experience, and inseparable from it, are the pure sense-conceptions (*reine Anschauungsformen*), such as space and time, while the many experiences, in order to succeed in forming understanding and science, must be connected by the pure mind-conceptions (*reine Verstandesbegriffe*), the so-called categories; among the latter also belongs causality.

Now Kant explains the necessity and general applicability of the pure sense and mind conceptions by the fact that they arise from the organization of our mind. Accordingly, the world appears to the senses as a succession of phenomena in time and space. Our reason transforms these phenomena into things which

are welded into one aggregate nature by laws of cause and effect. On the things as they really are in themselves, in the opinion of Kant, these pure conceptions cannot be applied. We know nothing of them and can neither perceive nor reconstruct them by reason, because "in themselves" they are wholly beyond reason and knowledge.

The result of this investigation, which was the first valuable contribution to a scientific theory of understanding and forms, from our standpoint, the most important part of Kant's philosophy, served him mainly as a means of answering the following questions: What is the value of knowledge which exceeds experience? Can we, by mere deduction through concepts which go beyond experience, arrive at truths? His answer was: No, and it was a crushing blow to rationalism. We cannot exceed the boundaries of experience. By experience alone can we arrive at science. All supposed knowledge about the unlimited and infinite, about concepts of pure reason, called Ideas by Kant, (as the soul, the world, and God) is nothing but illusions. The contradictions in which the human mind becomes involved whenever it applies the categories outside of experience to such subjects, are manifested in the fruitless strife between the philosophical systems. Metaphysics as a science is impossible.

This did not give the deathblow to rationalism alone, but also to bourgeois materialism which reigned among the French radical thinkers. Kant's researches refuted the negative as well as the positive assertions anent the supernatural and infinite. This cleared the field for faith, for intuitive conviction. God, freedom and immortality are concepts the truth of which cannot be proved by reason, like the natural truths derived from experience.

But nevertheless their reality is no less certain, only it is of a different nature, being subjective and, therefore, necessarily a matter of personal conviction. The freedom of the will, for instance, is not a knowledge gained by experience, because experience never teaches us anything but lack of freedom and dependence on the laws of nature. But nevertheless freedom of will is a necessary conviction of every one who feels it in the categorical imperative: Thou shalt! of every one possessed by a sense of duty and of the knowledge that he can act accordingly; therefore freedom of will is unconditionally certain and requires no proof by experience. And from this premise there follows in same way the assurance of the immortality of the soul and of the existence of God. It gives the same kind of certainty to all ideas which were left in a state of uncertainty by the critique of pure reason. At the same time freedom of will determines the form of the theory of understanding. In the entire world of phenomena there was no room for freedom, for these phenomena follow strict rules of causality, as demanded by the organization of our mind. Therefore it was necessary to make room for freedom of will somewhere else, and so "things in themselves," hitherto a phrase without value and meaning, assumed a higher importance. They were not bound to space, time or categories, they were free; they formed so to say a second world, the world of noumena, which stood behind the world of phenomena and which solved the contradiction between the lawful dependence of things in nature and between the personal conviction of freedom of will.

These opinions and reasonings were fully in accord with the conditions of science and the economic development of Kant's time. The field of nature was left

entirely to the inductive method of science which based itself on strictly materialist experience and observation, classifying things systematically in their causal order and excluding all supernatural interference. But while faith was banished from the natural sciences forever, it could not be dispensed with. The ignorance as to the origin of the human will left room for a supernatural ethic. The attempts of the materialists to exclude the supernatural also from this field failed. The time had not come as yet for a materialist and natural ethics, for science was not yet able to demonstrate as an indisputable truth, founded on experience, in what manner ethical codes and moral ideas in general had a material origin.

This state of things shows that the Kantian philosophy is the purest expression of bourgeois thought, and this is still more emphasized by the fact that freedom is the center of his system and controls it. Rising capitalism required freedom for the producers of commodities in order to expand its productive forces, it required freedom of competition and freedom of unlimited exploitation. The producers of commodities should be free from all fetters and restrictions, and unhampered by any coercion, in order that they could go, under the sole direction of their own intelligence, into free competition with their fellow citizens. For this reason, freedom became the slogan of the young bourgeoisie aspiring to political power, and Kant's doctrine of the free will, the basis of his ethics, was the echo of the approaching French Revolution. But freedom was not absolute; it was to be dependent on the moral law. It was not to be used in the quest for happiness, but in accord with the moral law, in the service of duty. If the bourgeois society was to exist, the private interest of the indi-

vidual must not be paramount, the welfare of the entire class had to be superior to that of the individual, and the commandments of this class had to be recognized as moral laws taking precedence over the quest for happiness. But for this very reason, these moral laws could never be fully obeyed, and every one found himself compelled to violate them in his own interest. Hence the moral law existed only as a code which could never be fulfilled. And so it stood outside of experience.

In Kant's ethics the internal antagonism of bourgeois society is reflected, that antagonism which is the compelling force of the ever increasing economic development. The foundation of this antagonism is the antagonism, already mentioned, between the individual and social character of production that gives rise to omnipotent, but unconceived social forces ruling the destiny of man. In capitalistic production it is still intensified by the antithesis of the wealthy ruling class and the poor producing class that is continuously augmented by those who are expropriated by competition. This antagonism gives rise to the contradiction between the aims of men and the results achieved, between the desire of happiness and the misery of the great mass. It is the basis of the contradiction between virtue and vice, between freedom and dependence, between faith and science, between phenomenon and "thing itself." It is at the bottom of all contradictions and of the entire pronounced dualism of the Kantian philosophy. These contradictions are to blame for the downfall of the system, and the work of disintegration was unavoidable from the moment that the contradictions of the bourgeois production became apparent, that is to say immediately after the political victory of the bourgeoisie. The system of Kant could, however, not be overcome,

unless the material origin of morality could be uncovered. Then these contradictions could be understood and solved by showing that they were relative and not absolute as they appeared. And not until then could a materialist ethics, a science of morality, drive faith from its last retreat. This was at last accomplished by the discovery of social class struggles and of the nature of capitalist production, by the pioneer work of Karl Marx.

The practice of developed capitalism about the middle of the 19th century directly challenged proletarian thinkers to criticise Kant's doctrine of practical reason. Bourgeois ethics and freedom manifested themselves in the form of freedom of exploitation in the interest of the bourgeoisie, as slavery for the working class. The maintenance of human dignity appeared in reality as the brutalization and degradation of the proletarians, and the state founded on justice proved to be nothing but the class state of the bourgeoisie. And so it was seen that Kant's sublime ethics, instead of being the basis in all eternity of human activity in general, was merely the expression of the narrow class interests of the bourgeoisie. This proletarian criticism was the first material for a general theory, and once it had been stated, its correctness was demonstrated more and more by the study of previous historical events, and these events were thereby shown in their proper light. It was then understood by this theory that the social classes, distinguished by their position in the process of production, had different and antagonistic economic interests, and that each class did necessarily regard its own interest as good and sacred. These general class interests were not recognized in their true character but appeared to men in the guise of superior moral motives; in this form they crowded the

special individual interests into the background, and since the class interests were generally felt, all the members of the same class recognized them. Moreover, a ruling class could temporarily compel a defeated or suppressed class to recognize the class interests of the rulers as a moral law, so long as the inevitability of the mode of production in which that class ruled was acknowledged. Owing to the fact that the nature and significance of the productive process was not understood, the origin of human motives could not be discovered. They were not traced back to experience, but simply felt directly and intuitively. And consequently they were thought to be of a supernatural origin and eternal duration.

Not only the moral codes, but also other products of the human mind, such as religion, science, arts, philosophy, were then understood to be intimately connected with the actual material conditions of society. The human mind is influenced in all its products by the entire world outside of it. And thus the mind is seen to be a part of nature, and the science of the mind becomes a natural science. The impressions of the outer world determine the experience of man, his wants determine his will, and his general wants his moral will. The world around him determines man's wants and impressions, but these, on the other hand, determine his will and activity by which he changes the world; this will-directed activity appears in the process of social production. In this manner man by his work is a part, a link in the great chain of natural and social development.

This conception overturns the foundations of philosophy. Since the human mind is seen now to be a part of nature and interacts with the rest of the world according to laws which are more or less known, it is

classed among Kant's phenomena. There is no longer any need of talking about noumena. Thus, they do not longer exist for us. Philosophy then reduces itself to the theory of experience, to the science of the human mind. It is at this point that the beginning made by Kant had to be farther developed. Kant had always separated mind and nature very sharply. But the understanding that this separation should only be made temporarily for the purpose of better investigation, and that there is no absolute difference between matter and mind made it possible to advance the science of thought processes. However, this could be accomplished only by a thinker who had fully digested the teachings of socialism. This problem was solved by Joseph Dietzgen in his work on "THE NATURE OF HUMAN BRAIN WORK," the first edition of which appeared in 1869, and by this work he won for himself the name of philosopher of the proletariat. This problem could be solved only by the help of the dialectic method. Therefore, the idealist philosophical systems from Kant to Hegel which consist chiefly in the development of the dialectic method, must be regarded as the indispensable pioneers and precursors of Dietzgen's proletarian philosophy.

The philosophy of Kant necessarily broke down on account of its dualism. It had shown that there is safety only in finite and material experience, and that the mind becomes involved in contradictions whenever it ventures beyond that line. The mind's reason calls for absolute truth which cannot be gotten. Hence the mind is groping in the dark and critique may perhaps explain why it is in the dark, but it cannot show the way out. What is called with Kant dialectics is in reality resignation. True, the mind finds knowledge about things outside of experi-

ence by some other way, viz., by means of its moral consciousness, but this intuitive knowledge in the form of faith remains sharply separated from scientific understanding. It was the task of the philosophical development immediately after Kant, to do away with this sharp separation, this unreconciled contradiction. This development ended with Hegel; its result was the understanding that contradiction is the true nature of everything. But this contradiction cannot be left to stand undisturbed, it must be solved and still retained in a higher form, and thus be reconciled. Therefore the world of phenomena cannot be understood as being at rest. It can be understood only as a thing in motion, as activity, as a continuous change. Action is always the reconciliation of contradiction in some higher form, and contradiction appears in this way as the lever of progressive development. That which accomplishes this dialectic self-development does not appear in the idealistic systems as the material world itself, but as the spiritual, the idea. In Hegel's philosophy, this conception assumes the form of a comprehensive system outlining the self-development of the Absolute which is spiritual and is identical with God. The development of this Absolute takes place in three stages; in its primitive pure spiritual form it develops out of its undifferentiated being the conceptions of logic; then it expresses itself in another, an external form, opposite to itself, as Nature. In nature all forms develop by way of contradictions which are eliminated by the development of some higher form. Finally the Absolute awakens to consciousness in nature in the form of the human mind and reaches thus its third stage, at which the opposite elements, matter and spirit, are reconciled into a unity. The human mind evolves in the same way to

ever higher stages, until it arrives, at the end of its development by understanding itself, that is to say, by knowing intuitively the Absolute. This is what happens unconsciously in religion. Religion, which in the form of faith must be satisfied with a modest corner in the system of Kant, appears in the system of Hegel very proudly as a higher sort of understanding superior to all other knowledge, as an intuitive knowledge of absolute truth (God). In philosophy this is done consciously. And the historical development which finds its conclusion and climax in the Hegelian philosophy corresponds to the logical development of the human mind.

Thus Hegel unites all sciences and all parts of the world into one masterly system in which the revolutionary dialectics, the theory of evolution, that considers all finite things as perishable and transitory, is given a conservative conclusion by putting an end to all further development when the absolute truth is reached. All the knowledge of that period was assigned to its place somewhere in this system, on one of the steps of the dialectic development. Many of the conceptions of the natural sciences of that day, which later on were found to be erroneous, are there presented as necessary truths resting on deduction, not on experience. This could give the impression that the Hegelian philosophy made empirical research superfluous as a source of concrete truths. This appearance is to blame for the slight recognition of Hegel among naturalists; in natural sciences, this philosophy therefore has won much less importance than it deserved and than it might have won, if its actual significance, which consists in the harmonious connection between widely

separated events and sciences, had been better understood under its deceptive guise.

On the abstract sciences the influence of Hegel was greater, and here he held an exceptionally prominent position in the scientific world of that time. On one hand, his conception of history as a progressive evolution in which every imperfect previous condition is regarded as a necessary phase and preparation for subsequent conditions and thus appears natural and reasonable, was a great gain for science. On the other hand, his statements on the philosophy of law and religion met the requirements and conceptions of his time. In his philosophy of law, the human mind is taken in that stage in which it steps into reality, having as its principal characteristic a free will. It is first considered as a single individual which finds its freedom incorporated in its property. This personality enters into relations with others like it. Its freedom of will is thereby expressed in moral laws. By combining all individuals into one aggregate whole, their contradictory relations are merged into the social units, viz., the family, the bourgeois society (*bürgerliche Gesellschaft*) and the state. There the moral rules are carried from the inner to the outer reality. As the expressions of a superior, common and more general will, they stand forth in the generally accepted moral codes, in the natural laws of bourgeois society and in the authoritative laws of the state. In the state, the highest form of which is the monarchy, the mind finds itself at its highest stage of objective realization as the idea of the state.

The reactionary character of Hegelian philosophy is not merely a superficial appearance that rests on the glorification of state and royalty, thanks to which this

philosophy was raised to the position of Prussian state philosophy after the restauration. It was in its very essence a product of reaction which in those days represented the only possible advance after the revolution. This reaction was the first practical critique of bourgeois society. After this society had been firmly established, the relative amenities of the old time appeared in a better light, because the shortcomings of the new society made themselves soon felt. The bourgeoisie had recoiled before the consequences of its revolution, when it recognized that the proletariat was its barrier. It arrested the revolution as soon as its bourgeois aims had been accomplished, and it was willing to acknowledge again the mastery of the feudal state and monarchy, provided they would protect it and serve its interests. The feudal powers that previously had been overcome by the weight of their own sins and by the unconditional superiority of the new social order, again lifted their heads when the new order in its turn gave cause for well founded criticisms. But they could not keep the revolution in check, unless they recognized it in a limited degree. They could once more rule over the bourgeoisie, provided they compromised with it so far as it was inevitable. They could no longer prevail against capitalism, but they could govern for it. Thus, by their rule, the imperfectness of capitalism was revealed.

The theory of restauration, therefore, had to consist first of all of a thorough critique of the revolutionary bourgeois philosophy. But this philosophy could not be thrown aside entirely. So far as a critique of the old order was concerned, the truth of bourgeois philosophy had to be admitted. On the other

hand, the sharp distinction it made between the falsity of the old and the truth of the new order was found to be beside the mark. So the correctness of the bourgeois philosophy itself proved to be relative and limited, like that of a herald of some higher truth which in its turn would acknowledge that which was temporarily and partially true in its vanquished precursor. In this way the contradictions became moments in the evolution of absolute truth, in this way, furthermore, the dialectics became the main feature and method of post-Kantian philosophy; and in this way, finally, the theorists of the reaction were the men who steered philosophy over new courses and who thereby became the harbingers of socialism. Scepticism and a critique of all traditional things, yet a careful protection of endangered faith, had characterized the tendencies of bourgeois thought during its revolutionary period. In the reactionary stage, the bourgeois implicitly accepted the belief in absolute truth and cultivated a self-righteous faith. The practice of Metternich and of the Holy Alliance corresponded to the theory of Hegelian philosophy.

The practice of the Prussian police state, which embodied the shortcomings of capitalism without its advantages and thus represented a higher degree of reaction, destroyed the Hegelian philosophy, as soon as the practices of maturing capitalism began to rebel against the fetters by which reaction endeavored to bind it. Feuerbach returned in his critique of religion from the fantastical heights of abstraction to physical man. Marx demonstrated that the reality of bourgeois society expresses itself in its class antagonisms which herald its imperfectness and approaching downfall, and he discovered that the actual historical de-

velopment rested on the development of the process of material production. The absolute spirit that was supposed to be embodied in the constitution of the despotic state before the March revolution now revealed itself as the narrow bourgeois spirit which regards bourgeois society as the final aim of all historical development. The Hegelian statement that all finite things carry within themselves the germ of their own dissolution came home to his own philosophy, as soon as its finiteness and limitations had been grasped. Its conservative form was abandoned, but its revolutionary content, the dialectics, was preserved. The Hegelian philosophy was finally superseded by dialectic materialism which declares that absolute truth is realized only in the infinite progress of society and of scientific understanding.

This does not imply a wholesale rejection of Hegelian philosophy. It merely means that the relative validity of that philosophy has been recognized. The vicissitudes of the absolute spirit in the course of its self-development are but a fantastical description of the process which the real human mind experiences in its acquaintance with the world and its active participation in life. Instead of the evolution of the absolute idea, the dialectics henceforth becomes the sole correct method of thought to be employed by the real human mind in the study of the actual world and for the purpose of understanding social development. The great and lasting importance of Hegel's philosophy, even for our own time, is that it is an excellent theory of the human mind and of its working methods, provided we strip off its transcendental character, and that it far excels the first laborious contributions of Kant to the theory of understanding.

But this quality of the Hegelian philosophy could not be appreciated, until Dietzgen had created the basis for a dialectic and materialistic theory of understanding. The indispensable character of dialectic thought, which is illustrated by the monumental works of Marx and Engels, has been first demonstrated in a perfectly convincing manner by Dietzgen's critical analysis of the human force of thinking. It was only by means of this method of thought—of which he was according to Engels' testimony an independent discoverer—that he could succeed in completing the theory of understanding and bringing it to a close for the time being.

If we refer to the ideas laid down by Dietzgen in this work as "his philosophy," we say too much, because it does not assume to be a new system of philosophy. Yet, on the other hand, we should not say enough, because it would mean that his work is as passing as the systems before it. It is the merit of Dietzgen to have raised philosophy to the position of a natural science, the same as Marx did with history. The human faculty of thought is thereby stripped of its fantastic garb. It is regarded as a part of nature, and by means of experience a progressive understanding of its concrete and ever changing historical nature must be gained. Dietzgen's work refers to itself as a finite and temporary realization of this aim, just as every new theory in natural science is a finite and temporary realization of its aims. This realization must be further improved and perfected by successive investigations. This is the method of natural science; philosophical systems, on the contrary, pretended to give absolute truth, that could not be improved upon.

Dietzgen's work is fundamentally different from these former philosophies, and more than they, because it wishes to be less. It presents itself as the positive outcome of philosophy toward which all great thinkers have contributed, seen by the sober eyes of a socialist and analyzed, recounted and further developed by him. At the same time, it attributes to previous systems the same character of partial truths and shows that they were not entirely useless speculations, but ascending stages of understanding naturally related, which contain ever more truth and ever less error. Hegel had likewise entertained this broader view, but with him this development came to a self-contradictory end in his own system. Dietzgen also calls his own conception the highest then existing, and its distinctive step in the evolution is that it for the first time adopts and professes this natural and scientific view, instead of the supernatural point of view of the former systems. The new understanding that the human mind is a common and natural thing is a decisive step in the progressive investigation of the mind, and this step places Dietzgen at the head of this evolution. And it is a step which cannot be retraced, because it signifies a sober awakening after centuries of vain imaginings. Since this system does not pretend to be absolute truth, but rather a finite and temporal one, it cannot fall as its predecessors did. It represents a scientific continuation of former philosophies, just as astronomy is the continuation of astrology and of the Pythagorean fantasies, and chemistry the continuation of alchemy. It takes the place that formerly was held by its unscientific predecessors and has this in common with them, apart from its essential theory of understanding, that it is the basis of a new world-

philosophy, of a methodical conception of the universe.

This modern world-philosophy (*Weltanschauung*), being a socialist or proletarian one, takes issue with the bourgeois conceptions; it was first conceived as a new view of the world, entirely opposite to the ruling bourgeois conceptions, by Marx and Engels, who developed its sociological and historical contents; its philosophical basis is here developed by Dietzgen; its real character is indicated by the terms dialectic and materialist. By its core, historical materialism, it gains a wholly new theory of social evolution that forms its chief content. This theory was for the first time sketched in its main outlines in the Communist Manifesto, and later on fully developed in a number of other works and thoroughly vindicated by innumerable facts. It gives us the scientific assurance that the misery and imperfectness of present society, which bourgeois philosophy regards as inevitable and natural, is but a transitory condition, and that man will within measurable time emancipate himself from the slavery of his material wants by the regulation of social production. By this certainty socialism is put on an eminence so far above all bourgeois conceptions that these appear barbarous in comparison with it. And what is more significant, our world-philosophy may justly claim to have for the first time thrown the light of an indisputable science on society and man; combined with the maturest products of natural sciences it forms a complete science of the world, making all superstitions superfluous, and thus involving the theoretical emancipation, that is to say the emancipation of the mind. The science treating of the human mind forms the essence and foundation of

this theory of society and man, not only because it gives us the same as the natural sciences a scientific or experience-proven theory of the function of human thinking, but also, because this theory of cognition can alone assure us that such sciences are able to furnish us an adequate picture of the world, and that anything outside of them is mere fantasy. For this reason we owe to Dietzgen's theory of cognition the firm foundation of our world-philosophy.

Its character is primarily materialistic. In contradistinction to the idealist systems of the most flourishing time of German philosophy which considered the Mind as the basis of all existence, it starts from concrete materialist being. Not that it regards mere physical matter as its basis; it is rather opposed to the crude bourgeois materialism, and matter to it means everything which exists and furnishes material for thought, including thoughts and imaginations. Its foundation is the unity of all concrete being. Thus it assigns to the human mind an equal place among the other parts of the universe; it shows that the mind is as closely connected with all the other parts of the universe as those parts are among themselves; that is to say, the mind exists only as a part of the entire universe so that its content is only the effect of the other parts. Thus our philosophy forms the theoretical basis of historical materialism. While the statement that "the consciousness of man is determined by his social life" could hitherto at best be regarded as a generalization of many historical facts and thus seemed imperfect and open to criticism, capable of improvement by later discoveries, the same as all other scientific theories, henceforth the complete dependence of the mind on the rest of the world becomes as im-

pregnable and immutable a requirement of thought as causality. This signifies the thorough refutation of the belief in miracles. After having been banished long ago from the field of natural science, miracles were now banished from the domain of thought.

The enlightening effect of this proletarian philosophy consists furthermore in its opposition to all superstition and its demonstration of the senselessness of all idol worship. Socialist understanding accomplished something which the bourgeois reformers could not do, because they were limited to natural science in a narrow sense and could not solve the mystery of the mind; for in explaining all the mental, spiritual phenomena as natural phenomena our proletarian philosophy furnishes the means for a trenchant critique of Christian faith which consists in the belief in a supernatural spiritual being. In his dialectic discussions of mind and matter, finiteness and infinity, god and the world, Dietzgen has thoroughly clarified the confused mystery which surrounded these conceptions and has definitely refuted all transcendental beliefs. And this critique is no less destructive for the bourgeois idols: Freedom, Right, Spirit, Force, which are shown to be but fantastic images of abstract conceptions with a limited validity.

This could be accomplished in no other way than by simultaneously determining, in its capacity as a theory of understanding, the relation of the world around us to the image which our mind forms of it. In this respect Dietzgen completed the work begun by Hume and Kant. As a theory of understanding, his conceptions are not only the philosophical basis of historical materialism, but also of all other sciences as well. The thorough critique directed by Dietzgen

against the works of prominent natural scientists, shows that he was well aware of the importance of his own work. But, as might be expected, the voice of a socialist artisan did not penetrate to the lecture hall of the academies. It was not until much later that similar views appeared among the natural scientists. And now at last the most prominent theorists of natural science have adopted the view that explaining signifies nothing else but simply and completely describing the processes of nature.

By this theory of understanding Dietzgen has made it plainly perceptible why the dialectic method is an indispensable auxiliary in the quest for an explanation of the nature of understanding. The mind is the faculty of generalization. It forms out of concrete realities, which are a continuous and unbounded stream in perpetual motion, abstract conceptions that are essentially rigid, bounded, stable, and unchangeable. This gives rise to the contradiction that our conceptions must always adapt themselves to new realities without ever fully succeeding; the contradiction that they represent the living by what is dead, the infinite by what is finite, and that they are themselves finite though partaking of the nature of the infinite. This contradiction is understood and reconciled by the insight into the nature of the faculty of understanding, which is simultaneously a faculty of combination and of distinction, which forms a limited part of the universe and yet encompasses everything, and it is furthermore solved by the resulting penetration of the nature of the world. The world is a unity of the infinitely numerous multitude of phenomena and comprises within itself all contradictions, makes them relative and equalizes them. Within its circle there are no abso-

lute opposites. The mind merely constructs them, because it has not only the faculty of generalization but also of distinguishing. The practical solution of all contradictions is the revolutionary practice of infinitely progressing science which moulds old conceptions into new ones, rejects some, substitutes others in their place, improves, connects and dissects, still striving for an always greater unity and an always wider differentiation.

By means of this theory of understanding, dialectic materialism also furnishes the means for the solution of the riddles of the world (Welträtsel). Not that it solves all these riddles; on the contrary, it says explicitly that this solution can be but the work of an ever advancing scientific research. But it solves them in so far as it deprives them of the character of a mysterious enigma and transforms them into a practical problem, the solution of which we are approaching by an infinite progression. Bourgeois thought cannot solve the riddles of the world. A few years after the first publication of Dietzgen's work, natural science in the person of Du Bois-Reymond acknowledged its incapacity by his "Ignorabimus:" "We shall never know." Proletarian philosophy, in solving the riddle of the human mind, gives us the assurance that there are no insoluble riddles before us.

In conclusion, Dietzgen in this work indicates the principles of a new ethics. Starting with the understanding that the origin of the ideas of good and bad is found in the needs of man, and designating as really moral that which is generally useful, he logically discovers that the essence of modern morality rests in its class interests. At the same time, a relative justification is accorded to these temporary ethics, since

they are the necessary products of definite social requirements. The link between man and nature is formed by the process of social production carried on for the satisfaction of man's material wants. So long as this link was a fetter, it bound man by a misapprehended supernatural ethics. But once the process of social labor is understood, regulated and controlled, then this fetter is dropped and the place of ethics is taken by a reasonable understanding of the general wants.

The philosophical works of Dietzgen do not seem to have, until now, exerted any perceptible influence on the socialist movement. While they may have found many a silent admirer and contributed much toward a clearing up of their thoughts, yet the importance of his writings for the theory of our movement has not been realized. But this is not a matter for great surprise. In the first decade after their publication, even the economic works of Marx, the value of which was much more apparent, were little appreciated. The movement developed spontaneously, and the Marxian theory could exert a useful and determining influence only by means of the clear foresight of a few leaders. Hence it is no wonder that the philosophy of the proletariat, which is less easily and directly applicable than our economics, did not receive much attention. The political maturity of the German working class, which was farthest advanced in the theories of the international movement, did not develop to the point of adopting Marxian theses as party principles, until after the abolition of the anti-socialist laws. But even then they were for most of the spokesmen of the party rather concise formulations

of a few practical convictions than the outcome of a thorough scientific training and understanding. It was no doubt the great expansion of the party and of its activity which demanded all their powers for its organization and management, that led the younger intellectuals of the party to devote themselves to practical work and to neglect the theoretical studies. This neglect has bitterly avenged itself in the theoretical schisms of the subsequent years.

The decrepit condition of capitalism is now evidenced very plainly by the decay of the bourgeois parties, so that the practical work of the socialist party is in itself sufficient to attract every one who has an independent turn of mind and a capacity for deep feeling. But under the present circumstances, such a transition was not accompanied by a proletarian world-philosophy acquired by painstaking study. Instead of such a philosophy, we are confronted by a critique of socialist science from the bourgeois standpoint. Marxism is measured by the standard of the immature bourgeois theory of understanding, and the Neokantians, unconscious of the positive outcome of philosophy of the past century, are trying to connect socialism with Kantian ethics. Some even speak of a reconciliation with Christianity and a renunciation of materialism.

This bourgeois method of thought, which, being anti-dialectic and anti-materialistic, is opposed to Marxism, has acquired some practical importance in the socialistic movement of countries where by lack of economical development the class-consciousness of the workers is hindered by relics of the narrow-minded views of the class of little producers—as in France and Italy under the name of reformism. In Germany

where it could not obtain much practical importance it presented itself mostly as a theoretical struggle against Marxism under the name of revisionism. It combines bourgeois philosophy and anti-capitalist disposition and takes the place formerly occupied by anarchism, and, like anarchism, it again represents in many respects the little bourgeois tendencies in the fight against capitalism. Under these circumstances, a closer study of Dietzgen's philosophical works becomes a necessity.

Marx has disclosed the nature of the social process of production, and its fundamental significance as a lever of social development. But he has not fully explained, by what means the nature of the human mind is involved in this material process. Owing to the great traditional influence exerted by bourgeois thought, this weak spot in Marxism is one of the main reasons for the incomplete and erroneous understanding of Marxian theories. This shortcoming of Marxism is cured by Dietzgen, who made the nature of the mind the special object of his investigations. For this reason, a thorough study of Dietzgen's philosophical writings is an important and indispensable auxiliary for the understanding of the fundamental works of Marx and Engels. Dietzgen's work demonstrates that the proletariat has a mighty weapon not only in proletarian economics, but also in proletarian philosophy. Let us learn to wield these weapons!

ANTON PANNEKOEK.

Leyden, Holland, December, 1902.

The Nature of Human Brain Work
A Renewed Critique of Pure and
Practical Reason

BY A MANUAL WORKER

Translated by Ernest Untermann

THE NATURE OF HUMAN BRAIN WORK

PREFACE

It may not be amiss here to say a few words to the kind reader and the unkind critic in regard to the personal relation of the author to the present work. The first objection which I anticipate will be aimed at my lack of scientific learning which is shown indirectly rather, between the lines, than in the work itself. "How dare you," I ask myself, "come before the public with your statements on a subject, which has been treated by such heroes of science as Aristotle, Kant, Fichte, Hegel, etc., without being thoroughly familiar with all the works of your famous predecessors?"

At best, will you not merely repeat what has long since been accomplished?

In reply, I wish to say that the seeds sown by philosophy in the soil of science have long since blossomed and borne fruit. The product of history develops historically, grows and passes away, in order to live eternally in another form. The original deed, the original work, is fertile only in the contact with the conditions and relations of the time in which it is born. But it finally becomes an empty shell, when it has yielded its kernel to history. Whatever of a positive nature was produced by the science of the past, lives

no longer in the words of the author, but has become more than spirit, has become flesh and blood in present science. In order, e. g., to know the products of physics and produce something new in its field, it is not necessary to first study the history of this science, nor derive the hitherto discovered laws from their fundamental source. On the contrary, historical research might only be an obstacle to the solution of a definite physical problem, for concentrated strength will naturally accomplish more than divided strength. In this sense, I consider my lack of other knowledge an advantage, because I am thus enabled to devote myself so much more intensely to my special object. I have striven hard to study this object and to learn everything which is known about it in my time. The history of philosophy has in a certain sense been repeated in the development of my individuality, since I speculated from my earliest youth on the means of satisfying my longing for a consistent and systematic conception of the world, and I believe I have finally found this satisfaction in the inductive understanding of the human faculty of thought.

Note that it is not the faculty of thought in its various manifestations, not the different forms of it, but its general form, its general nature, that satisfied me and that I propose to discuss. My object is then very plain and circumscribed, indeed it is so simple, that I had difficulties in showing its nature from different points of view and was compelled to resort to numerous repetitions. At the same time, the question concerning the nature of the mind is a popular one, which is not limited to professional philosophy, but concerns all sciences. And whatever the history of science has contributed towards the solution of this question, must

be generally alive in the scientific conceptions of the present. I could well be satisfied with this source.

I may, then, confess in spite of my authorship, that I am not a professor of philosophy, but a mechanic by profession. If any one should feel justified in telling me: "Shoemaker, stick to your last!" I would reply to him with Karl Marx: "Your non plus ultra professional wisdom became enormously foolish from the moment when the watchmaker Watt invented the steam engine, the barber Arkwright the loom, the jeweler Fulton the steamship." Without classing myself among these great men, I can strive to emulate them. Besides, the nature of my object is especially pertinent to the class, a member of which I have the pleasure, if not the honor, of being.

I treat in this work of the faculty of thought as the organ of the general. The oppressed fourth estate, the working class, is the true exponent of this organ, the ruling classes being prevented by their special class interests from recognizing the demands of general reason. Our first consideration is, of course, the relation of our object to human conditions. However, so long as conditions are not equalized for men in general, but vitiated by class interests, our view of things is influenced by these class limitations. A truly objective understanding requires a subjective theoretical freedom. Before Copernicus saw the Earth was moving and the Sun stationary, he had to place himself outside of his terrestrial standpoint. The faculty of thought, having all relations for its object, must abstract from all of them in order to grasp its own real nature. Since we can understand things only by means of thought, we must abstract from everything in order to understand thought in general. This

task was too difficult, so long as man was bound to some limited class standpoint. Not until historical development has proceeded to the point of striving at dissolution of the last society based on a ruling and a serving class, can prejudices be overcome to the extent of enabling the faculty of understanding to grasp the nature of human brain activity in the abstract. It is only a historical movement aiming at the direct and general liberty of the masses, the new era of the fourth estate based on much misunderstood premises, which can dispense with the spirit cult sufficiently to be enabled to expose the real author of every spook, the "pure" mind. The man of the fourth estate represents at last the "pure" man. His interests are no longer mere class interests, but mass interests, interests of humanity. This indicates that we are now approaching the end of a development in which the interests of the mass were dependent on the interests of a ruling class and in which humanity made progress not so much in spite of as by means of continuous oppression by Jewish patriarchs, Asiatic conquerors, antique slaveholders, feudal barons, guildmasters, modern capitalists and even capitalist Cæsars. The class conditions of the past were inevitable in the general development. Now this development has arrived at a point where the mass becomes conscious of itself. Man has hitherto developed by class antagonism. By this means he has now arrived at the point where he wants to develop himself consciously. Class antagonisms were *phenomena* of humanity. The working class strives to abolish class antagonism in order that humanity itself may be a *truth*.

Just as the Reformation was conditioned on the actual environment of the sixteenth century, so, like the discovery of the electric telegraph, the research of the theory

of human understanding is based on the actual conditions of the nineteenth century. To this extent the contents of this little work are not an individual, but a historical product. In writing it, I feel myself, if I may use this mystic phrase, as a mere organ of the idea. Only the form of presenting the subject is mine, and I beg the kind reader to judge it leniently. I ask that the reader may direct his or her silent or loud objections, not against the form, but against the substance of my remarks, not to cling to the letter, but to understand the spirit of my words.

If I should not succeed in developing the idea, and if my voice should thus be drowned in the hubbub of our overstocked book market, I am nevertheless certain that the cause itself will find a more talented champion.

JOSEPH DIETZGEN, *Tanner*.

SIEGBURG, May 15, 1869.

THE NATURE OF HUMAN BRAIN WORK

I.

INTRODUCTION

Systematization is the essence and the general expression of the aggregate activity of science. Science seeks to classify and systematize the objects of the world for the understanding of our brain. The scientific understanding of a certain language, e. g., requires an orderly arrangement of that language in general categories and rules. The science of agriculture does not simply wish to produce a good crop of potatoes, but to find a system for the methods of cultivation and thus to furnish the knowledge by which success in cultivation can be determined beforehand. The practical result of all theory is to acquaint us with the system and method of its practice and thus to enable us to act in this world with a reasonable certainty of success. Experience is, of course, an indispensable condition for this purpose; but it alone is not sufficient. Only by means of empirically developed theories, by science, do we overcome the play of accident. Science gives us the conscious domination over things and unconditional security in handling them.

No one individual can know everything. The capacity of the individual brain is no more adequate for the

knowledge of everything that is necessary than the skill and strength of the individual's hands are sufficient to produce all he needs. Faith is indispensable to man, but only faith in that which others know, not in what they believe. Science is as much a social matter as material production. "One for all and all for one."

But just as there are some wants of the body which every one has to satisfy by himself, so every one has to know certain scientific facts which are not the prerogative of any special science.

This is true of the faculty of human understanding. The knowledge and study of this theory cannot be left to any particular guild. Lassalle justly says: "Thinking itself has become a special trade in these days of division of labor, and it has fallen into the worst hands, those of our newspaper writers." He thus urges us not to acquiesce in this appropriation any longer, not to submit any more to the harangues of public opinion, but to resume thinking for ourselves. We may leave certain objects of scientific research to professionals, but general thought is a public matter which every one should be required to attend to himself.

If we could place this general work of thinking on a scientific basis, if we could find a theory of general thought, if we were able to discover the means by which reason arrives at understanding, if we could develop a method by which truth is produced scientifically, then we should acquire for science in general and for our individual faculty of judgment the same certainty of success which we already possess in special fields of science.

Kant says: "If it is not possible to harmonize the

various co-operators on the question of the means by which their common aim is to be accomplished, then we may safely infer that such a study is not yet on the secure road of science, but will continue to grope in the dark."

Now, if we take a look at the sciences, we find that there are many, especially among the natural sciences, which fulfill the requirements of Kant, agreeing unanimously and consciously on certain empirical knowledge and building further understanding on that. "There we know," as Liebig says, "what is to be called a certain fact, a conclusion, a rule, a law. We have touchstones for all this, and every one makes use of them before making known the fruits of his labors. The attempt to maintain any proposition by lawyer's tricks, or the intention to make others believe anything that cannot be proven, are immediately wrecked by the ethics of science."

Not so in other fields, where concrete and material things are left behind and abstract, so-called philosophical matters are taken up, as, for instance, questions of general conceptions of the world and of life, of beginning and end, of the semblance and the essence of things, of cause and effect, of matter and force, of might and right, of wisdom of life, of morality, religion, and politics. Here we find, instead of irrefutable proofs, mere "lawyer's tricks," an absence of reliable knowledge, a mere groping amid contradictory opinions.

And it is precisely the prominent authorities of natural science who show by their disagreements on such matters that they are mere tyros in philosophy. It follows, then, that the so-called ethics of science, the

touchstones of which the boast is made that they never fail in determining what is knowledge and what is mere conjecture, are based on a purely instinctive practice, not on a conscious theory of understanding. Although our time excels in diligent scientific research, yet the numerous differences among scientists show that they are not capable of using their knowledge with a predetermined certainty of success. Otherwise, how could misunderstandings arise? Whoever understands understanding, cannot misunderstand. It is only the absolute accuracy of astronomical computations which entitles astronomy to the name of a science. A man who can figure is at least enabled to test whether his computation is right or wrong. In the same way, the general understanding of the process of thought must furnish us with the touchstone by which we can distinguish between understanding and misunderstanding, knowledge and conjecture, truth and error, by general and irrefutable rules. Erring is human, but not scientific. Science being a human matter, errors may exist eternally, but the understanding of the process of thought will enable us quite as well to prevent errors from being offered and accepted as scientific truths as an understanding of mathematics enables us to eliminate errors from our computations.

It sounds paradoxical and yet it is true: Whoever knows the general rule by which error may be distinguished from truth, and knows it as well as the rule in grammar by which a noun is distinguished from a verb, will be able to distinguish in both cases with equal certainty. Scientists as well as scribes have ever embarrassed one another by the question:

What is truth? This question has been an essential object of philosophy for thousands of years. This question, like philosophy itself, is finally settled by the understanding of the faculty of human thought. In other words, the question of what constitutes truth is identical with the question of the distinction between truth and error. Philosophy is the science which has been engaged in solving this riddle, and the final solution of the riddle by the clear understanding of the process of thought also solves the question of the nature of philosophy. Hence a short glance at the nature and development of philosophy may well serve as an introduction to our study.

As the word philosophy is connected with various meanings, I state at the outset that I am referring only to so-called speculative philosophy. I dispense with frequent quotations and notes of the sources of my knowledge, as anything that I may say in this respect is so well established that we can afford to discard all scientific by-work.

If we apply the above-named test of Kant to speculative philosophy it appears to be more the playground of different opinions than of science. The philosophical celebrities and classic authorities are not even in accord on the question: What is philosophy and what is its aim? For this reason, and in order not to increase the difference by adding my own opinion, I regard everything as philosophy that calls itself by that name, and we select from the voluminous literature of philosophy that which is common and general in all philosophers, without taking any notice of their special peculiarities.

By this empirical method we find first of all that

philosophy is originally not a specialized science working with other sciences, but a generic name for all knowledge, the essence of all science, just as art is the essence of the various arts. Whoever made knowledge, whoever made brain work his essential occupation, every thinker without regard to the contents of his thoughts, was originally a philosopher.

But when with the progressive increase of human knowledge, the various departments detached themselves from the mother of all wisdom, especially since the origin of natural sciences, philosophy became known, not so much by its content as by its form. All other sciences are distinguished by their various objects, while philosophy is marked by its own method. Of course, it also has its object and purpose. It desires to understand the universal whole, the cosmos. But it is not this object, this aim, by which philosophy is characterized; it is rather the manner in which this object is accomplished.

All other sciences occupy themselves with special things, and if they consider the universe at all, they do so only in its bearing on the special objects of their study, the parts of which the universe is composed. Alexander von Humboldt says in his introduction to his "Cosmos" that he is limiting himself to an empirical consideration, to a physical research, which seeks to elucidate the uniformity and unity by means of the great variety. And all inductive sciences arrive at general conclusions and conceptions only by way of their occupation with special and concrete things. For this reason they claim that their conclusions are based on facts.

Speculative philosophy proceeds by the opposite

method. Thought, the object of its study, may be some special question, yet it does not follow this up in the concrete. It rejects as fallacious the evidence of the senses, the physical experience gained by means of the eye and ear, hand and brain, and limits itself to "pure" and absolutely abstract thought, in order to understand thus by the unit of human reason the multiplicity of the universe. In seeking for an answer to the question: What is philosophy? which question we are specially discussing just now, speculative philosophy would not start out from its actual material form, from its wooden and pigskin volumes, from its great and small essays, in order to arrive at a conception of its object. On the contrary, the speculative philosopher turns to introspection and looks in the depths of his own mind for the true concept of philosophy. And by this standard he separates the impression of his senses into true or erroneous. This speculative method has hardly ever dealt in tangible things, unless we recognize this philosophical method in every unscientific concept of nature which populated the world with spooks. The rudiments of scientific speculation occasionally dealt with the course of the sun and the globe. But since inductive astronomy cultivates these fields with greater success, speculative philosophy limits itself entirely to abstract discussions. And in this line of research as well as in all others it is characterized by the production of its results out of the idea or the concept.

For empirical science, for the inductive method, the multiplicity of experiences is the first basis, and thought the second. Speculative philosophy, on the other hand, seeks to arrive at scientific truth without

the help of experience. It rejects the so-called transient facts as a foundation of philosophical understanding, and declares that it should be absolute, exalted above time and space. Speculative philosophy does not wish to be scientific physics, but metaphysics. It regards it as its task to find by "pure" reason, and without the assistance of experience, a system, a logic, or a theory of science, by which everything worth knowing is supposed to be reeled off logically and systematically, in about the same way in which we derive grammatically the various forms of a word from its root. But the physical sciences operate on the assumption that our faculty of understanding, to use a familiar illustration, resembles a piece of soft wax which receives impressions from outside, or a clean slate on which experience writes its lines. Speculative philosophy, on the other hand, assumes that certain ideas are innate and may be dipped and produced from the depths of the mind by means of thought.

The difference between speculative and inductive science is that between fantasy and sound common sense. The latter produces its ideas by means of the outer world, by the help of experience, while fantasy gets its product from the depth of the mind, out of itself. But this method of production is only seemingly one-sided. A thinker can no more think transcendental thoughts which are beyond the reach of experience, than a painter can invent transcendental pictures, transcendental forms. Just as fantasy creates angels by a combination of man and bird, or mermaids by a composition of woman and fish, so all other products of fantasy, though seemingly derived out of itself, are in fact only arbitrarily arranged impressions

of the outer world. Reason operates with numbers and orders, time and measures, and other means of experience, while fantasy reproduces the experiences without regard to law and in an arbitrary form.

The longing for knowledge has been the cause of speculative attempts to explain the phenomena of life and nature at a time when lack of experience and observation made inductive understanding impossible. Experience was then supplemented by speculation. In later times, when experience had grown, previous speculation was generally recognized as erroneous. But it nevertheless required thousands of years of repeated disappointments on one side and numerous brilliant successes of the inductive method on the other, before these speculative hobbies came into disfavor.

Fantasy has certainly a positive power, and speculative intuition, derived from analogy, very often precedes empirical and inductive understanding. But we must remain aware of the fact that so much is assumption and so much actual scientific knowledge. Conscious intuition stimulates scientific research, while pseudo-science closes the door to inductive research. The acquisition of the clear understanding of the distinction between speculation and knowledge is a historical process, the beginning and end of which coincides with the beginning and end of speculative philosophy.

In ancient times, common sense operated in common with fantasy, the inductive with the speculative method. The discussion of their differences begins only with the understanding of the numerous disappointments caused by the still inexperienced judgment

which have prevented an unobstructed view of the question up to modern times. But instead of attributing these disappointments to lack of understanding, they were charged to the account of the imperfection of the senses. The senses were called impostors and material phenomena untrue images. Who has not heard the lament about the unreliability of the senses? The misunderstanding of nature and of its phenomena led to a serious rupture with sense perceptions. The philosophers had deceived themselves and thought they had been deceived by the senses. In their anger they turned disdainfully away from the world of sensations. With the same uncritical faith with which the semblance had hitherto been accepted as truth, now uncritical doubt rejected the truth of sensations altogether. Research abandoned nature and experience, and began the work of speculative philosophy by "pure" thought.

But no! Science did not permit itself to be entirely led astray from the path of common sense, from the way of truth of sense perceptions. Natural science soon stepped into the breach, and its brilliant successes gained for the inductive method the consciousness of its fertility, while on the other hand philosophy searched for a system by which all the great general truths might be opened up without specialized study, without sense perception and observation, by mere reason alone.

Now we have a more than sufficient quantity of such speculative systems. If we measure them with the aforementioned standard of unanimousness, we find that philosophy agrees only on its disagreements. In consequence, the history of speculative philosophy,

unlike the history of other sciences, consists less of a gradual accumulation of knowledge, than of a series of unsuccessful attempts to solve the general riddles of nature and life by "pure" thought, without the help of the objects and experience of the outer world. The most daring attempt in this line, the most artificial structure of thought, was completed by Hegel in the beginning of the nineteenth century. To use a common expression, he became as famous in the world of science as Napoleon I did in the world of politics. But Hegelian philosophy has not stood the test of time. Haym, in his work entitled "Hegel and His Time," says of Hegelian philosophy that "it was pushed aside by the progress of the world and by living history."

The outcome of philosophy up to that time, then, was a declaration of its own impotence. Nevertheless, we do not underestimate the fact that a work occupying the best brains for thousands of years surely contained some positive element. And in fact, speculative philosophy has a history, which is not merely a series of unsuccessful attempts, but also a living development. However, it is less the object of its study, less the logical world system, which developed, than its method.

Every positive science has a material object, a beginning in the outer world, a premise on which its understanding is based. Every empirical science has for its fundament some material of the senses, some given object, on which its understanding is dependent, and thus it becomes "impure." Speculative philosophy seeks a "pure, absolute," understanding. It wishes to understand by "pure" reason, without any

material, without any experience. It takes its departure from the enthusiastic conviction of the superiority of understanding and knowledge over experience gained by sense perceptions. For this reason it wishes to leave experience entirely aside in favor of absolutely "pure" understanding. Its object is truth; not concrete truth, not the truth of this or that thing, but truth in general, truth "in itself." The speculative systems seek after an absolute beginning, an indubitably self-supporting starting point, from which they may determine the absolutely indubitable. The speculative systems are thus by their own mentality perfectly complete and selfsufficient systems. Every speculative system found its end in the subsequent knowledge that its totality, its selfsufficiency, its absoluteness, was imaginary, that it could be determined empirically and externally like all other knowledge, that it was not a philosophical system, but a relative and empirical attempt at understanding. Speculation finally dissolved into the knowledge that understanding is by its very nature "impure," that the organ of philosophy, the faculty of understanding cannot begin its studies without a given point of departure, that science is not absolutely superior to experience, but only so far as it can organize numerous experiences. It followed from these premises that the object of philosophy can be a general and objective understanding, or "truth in itself," only in so far as understanding or truth in general can be derived from given concrete objects. In plain words, speculative philosophy was reduced to the unphilosophical science of the empirical faculty of understanding, to the critique of reason.

Modern conscious speculation takes its departure from the experienced difference between semblance and truth. It denies all sense phenomena in order to find truth by thinking, without being deceived by any semblance. The subsequent philosophers, however, found every time that the truths of their predecessors, gained by this method, were not what they pretended to be, but that their positive result consisted simply in having advanced the science of the thought process to a certain extent. By denying the actuality of the senses, by endeavoring to separate thought from all sense perceptions, by isolating it, so to say, from its sensory cover, speculative philosophy, more than any other science, laid bare the structure of the mind. The more this philosophy advanced in time, the more it developed in its historical course, the more classically and strikingly did this kernel of its work spring into view. After the repeated creation of giant fantasmagorias, it found its solution in the positive knowledge that so-called pure philosophical thought, abstracting from all concrete contents, is nothing but thoughtless thought, thought without any real object back of it, and produces mere fantasmagorias. This process of speculative deception and scientific exposure was continued up to recent times. Finally the solution of the main question, and the solution of speculation, was introduced with the following words of Feuerbach: "My philosophy is no philosophy."

The long story of speculative work was finally reduced to the understanding of reason, of the intellect, the mind, to the exposure of those mysterious operations which we call thinking.

The secret of the processes by which the truths of

understanding are produced, the ignorance of the fact that every thought requires an object, a premise, was the cause of the idle speculative wanderings which we find registered in the history of philosophy. The same secret is today the cause of those numerous speculative mistakes which we observe in passing over the words and works of naturalists. Their knowledge and understanding is far developed, but only so far as it refers to tangible objects. The moment they touch upon abstract discussions, they offer "lawyers' proofs" in place of "objective facts." For although they know intuitively and in a concrete case that this is a truth, that a conclusion, and that a rule, they do not apply this knowledge in general with consciousness and theoretical consistency. The successes of natural science have taught them to operate the instrument of thought, the mind, instinctively. But they lack the systematic understanding which operates with conscious and predetermined certainty. They ignore the outcome of speculative philosophy.

It will be our task to set forth in a short summary what speculative philosophy has unconsciously produced of a positive nature by a tedious process, in other words, to explain the general nature of the thought process. We shall see that the understanding of this process will furnish us with the means of solving scientifically the general riddles of nature and of life. And thus we shall learn how that fundamental and systematic world conception is developed which was the long coveted goal of speculative philosophy.

II

PURE REASON OR THE FACULTY OF THOUGHT IN GENERAL

When speaking of food in general, we may mention fruits, cereals, vegetables, meat and bread and classify them all, in spite of their difference, under this one head. In the same way, we use, in this work, the terms reason, consciousness, intellect, knowledge, discernment, understanding, as referring to the same general thing. For we are discussing the general nature of the thought process rather than its special forms.

"No intelligent thinker of our day," says a modern physiologist, "pretends to look for the seat of the intellectual powers in the blood, as did the ancient Greeks, or in the pineal gland, as was the case in the middle ages. Instead we have all become convinced that the central nerve system is the organic center of the intellectual functions of the brain." Yes, true enough, thinking is a function of the brain and nerve centre, just as writing is a function of the hand. But the study of the anatomy of the hand can no more solve the question: What is writing? than the physiological study of the brain can bring us nearer to the solution of the question: What is thought? With the dissecting knife, we may kill, but we cannot discover the mind. The understanding that thought is a product of the brain takes us closer to the solu-

tion of our problem, in as much as it draws it into the bright light of reality and out of the domain of fantasy in which the ghosts dwell. Mind thereby loses the character of a transcendental incomprehensible being and appears as a bodily function.

Thinking is a function of the brain just as walking is a function of the legs. We perceive thought and mind just as clearly with our senses as we do pain and other feelings. Thought is felt by us as a subjective process taking place inside of us. According to its contents this process varies every moment and with each person, but according to its form it is the same everywhere. In other words, in the thought process, as in all processes, we make a distinction between the special or concrete and the general or abstract. The general purpose of thought is understanding. We shall see later that the simplest conception, or any idea for that matter, is of the same general nature as the most perfect understanding.

Thought and understanding cannot be without subjective contents any more than without an object which suggests individual reflection. Thought is work, and like every other work it requires an object to which it is applied. The statements: I do, I work, I think, must be completed by an answer to the question: What are you doing, working, thinking?

Every definite idea, all actual thought, is identical with its content, but not with its object. My desk as a picture in my mind is identical with my idea of it. But my desk outside of my brain is a separate object and distinct from my idea. The idea is to be distinguished from thinking only as a part of the

thought process, while the object of my thought exists as a separate entity.

We make a distinction between thinking and being. We distinguish between the object of sense perception and its mental image. Nevertheless the intangible idea is also material and real. I perceive my idea of a desk just as plainly as the desk itself. True, if I choose to call only tangible things material, then ideas are not material. But in that case the scent of a rose and the heat of a stove are not material. It would be better to call thoughts sense perceptions. But if it is objected that this would be an incorrect use of the word, because language distinguishes material and mental things, then we dispense with the word material and call thought real. Mind is as real as the tangible table, as the visible light, as the audible sound. While the idea of these things is different from the things themselves, yet it has that in common with them that it is as real as they. Mind is not any more different from a table, a light, a sound, than these things differ among themselves. We do not deny that there is a difference. We merely emphasize that they have the same general nature in common. I hope the reader will not misunderstand me henceforth, when I call the faculty of thought a material quality, a phenomenon of sense perception.

Every perception of the senses is based on some object. In order that heat may be real, there must be an object, something else which is heated. The active cannot exist without the passive. The visible cannot exist without the faculty of sight, nor the faculty of sight without visible things. So is the faculty of thought a phenomenon, but it can never exist in it-

self, it must always be based on some sense perception. Thought appears, like all other phenomena, in connection with an object. The function of the brain is no more a "pure" process than the function of the eye, the scent of a flower, the heat of a stove, or the touch of a table. The fact that a table may be seen, heard, or felt, is due as much to its own nature as to that of another object with which it enters into some relation.

But while each function is limited by its own separate line of objects, while the function of the eye serves only for the perception of the visible, the hand for the tangible, while walking finds an object in the space it crosses, thought, on the other hand, has everything for its object. Everything may be the object of understanding. Thought is not limited to any special object. Every phenomenon may be the object and the content of thought. More than this, we can only perceive anything when it becomes the object of our brain activity. Everything is therefore the object and content of thought. The faculty of thought may be exerted quite generally on all objects.

We said a moment ago that everything may be perceived, but we now modify this to the effect that only perceivable things may be perceived. Only the knowable can be the object of knowledge, only the thinkable the object of thought. To this extent the faculty of thought is limited, for it cannot replace reading, hearing, feeling, and all other innumerable activities of the world of sensations. We do, indeed, perceive all objects, but no object may be exhaustively perceived, known, or understood. In other words, the objects are not wholly dissolved in the under-

standing. Seeing requires something that is visible, something which is, therefore, more than seeing. In the same way, hearing requires something that can be heard, thinking an object that can be thought of, something which is more than our thoughts, something still outside of our consciousness. We shall learn later on how we arrive at the knowledge that we see, hear, feel, and think of objects, and not merely of subjective impressions.

By means of thought we become aware of all things in a twofold manner, viz., outside in reality and inside in thought, in conception. It is easy to demonstrate that the things outside are different from the things in our thoughts. In their actual form, in their real dimensions, they cannot enter into our heads. Our brain does not assimilate the things themselves, but only their images, their general outlines. The imagined tree is only a general object. The real tree is different from any other. And though I may have a picture of some special tree in my head, yet the real tree is still as different from its conception as the special is different from the general. The infinite variety of things, the innumerable wealth of their properties, has no room in our heads.

I repeat, then, that we become aware of the outer world in a twofold way, viz., in a concrete, tangible, manifold form, and in an abstract form, which is mental and unitary. To our senses the world appears as a variety of forms. Our brains combine them as a unit. And what is true of the world, holds good of every one of its parts. A sense-perceived unit is a nonentity. Even the atom of a drop of water or the atom of any chemical element, is divisible, so long as

it exists at all, and its parts are different and distinct. A is not B. But the concept, the faculty of thought, makes of every tangible or sense-perceived part an abstract whole and conceives of every whole or quantity as a part of the abstract world unit. In order to understand the things in their entirety, we must take them practically and theoretically, with body and mind. With the body we can grasp only the bodily, the tangible, with the mind only the mental, the thinkable. Things also possess mental quality. Mind is material and things are mental. Mind and matter are real only in their inter-relations.

Can we see the things themselves? No, we see only the effects of things on our eyes. We do not taste the vinegar, but the relation of the vinegar to our tongue. The result is the sensation of acidity. The vinegar is acid only in relation to our tongue. In relation to iron it acts as a solvent. In the cold it becomes hard, in the heat liquid. It acts differently on different objects with which it enters into relations of time and space. Vinegar is a phenomenon, just as all things are. But it never appears as vinegar by itself. It always appears in connection with other phenomena. Every phenomenon is a product of a subject and an object.

In order that a thought may appear, the brain or the faculty of thought is not sufficient in itself. It requires, besides, an object which suggests the thought. From this relative nature of our topic it follows that in its treatment we cannot confine ourselves "purely" to it. Since reason, or the faculty of thought, never appears by itself, but always in connection with other things, we are continually compelled to pass from the

faculty of thought to other things, which are its objects, and to treat of their connections.

Just as the sight does not see the tree, but only that which is visible of the tree, so does the faculty of thought assimilate only the perceivable image of an object, not the object itself. A thought is a child begotten by the function of the brain in communion with some object. In a thought is crystalized on one side the subjective faculty of thought, and on the other the perceivable nature of an object. Every function of the mind presupposes some object by which it is caused and the spiritual image of which it is. Or vice versa, the spiritual content of the mind is derived from some object which has its own existence and which is either seen or heard, or smelled, or tasted, or felt, in short, experienced.

Referring back to the statement that seeing is limited to the visible qualities of some object, hearing to its audible qualities, etc., while the faculty of thought has everything for its object, we now understand this to mean that all objects have certain innumerable, but concrete, qualities which are perceptible by our senses, and in addition thereto the general spiritual quality of being thought of, understood, in short, of being the object of our faculty of thought.

This mode of classifying all objects applies also to the faculty of thought itself. The spirit, or mind, is a bodily function connected with the senses which appear in various forms. Mind is thought generated at different times in different brains by different objects through the instrumentality of the senses. We may choose this mind as the object of special thought the same as all other things. Considered as an object,

mind is a manysided and sense-perceived fact which in connection with a special function of the brain generates the general concept of "Mind" as the content of this special thought process. The object of thought is distinguished from its contents in the same way in which every object is distinguished from its mental image. The different kinds of motion perceived by the help of the senses are the object of a certain thought process and supply to it the idea of "motion." It is easier to understand that the mental image of some object perceived by the senses has a father and a mother, being begotten by our faculty of thought by means of some sense-perceived object, than it is to grasp the existence of that trinity which is born when our present thought experiences its own existence and thus creates a conception of its own self. This has the appearance of moving around in a circle. The object, the content and the function of thought apparently coincide. Reason deals with itself, considers itself as an object and is its own content. But nevertheless the distinction between an object and its concept, though less evident, is just as actual as in other cases. It is only the habit of regarding matter and mind as fundamentally different things which conceals this truth. The necessity to make a distinction compels us everywhere to discriminate between the object of sense perception and its mental concept. We are forced to do the same in the case of the faculty of thought, and thus we find it necessary to give the name of "Mind" to this special object of our sense perceptions. Such an ambiguity of terms cannot be entirely avoided in any science. A reader who does not cling to words, but rather seeks to grasp the mean-

ing, will easily realize that the difference between being and thinking applies also to the faculty of thought, that the fact of understanding is different from the understanding of understanding. And since the understanding of understanding is again another fact, it will be permitted to call all spiritual things facts or sense perceptions.

Reason, or the faculty of thought, is therefore not a mystical object which produces the individual thought. On the contrary, it is a fact that certain individual thoughts are the product of perception gained in contact with certain objects and that these in connection with a certain brain operation produce the concept of reason. Reason as well as all other things of which we become aware has a two-fold existence: one as a phenomenon or sense-perception, the other as a concept. The concept of any thing presupposes a certain sense-perception of that thing, and so does the concept of reason. Since all men think as a matter of fact, every one has himself perceived reason as a part of reality, as a phenomenon, sense-perception or fact.

Our object, reason, by virtue of the fact that it partakes of the nature of the senses, has the faculty of transforming the speculative method, which tries to dip understanding out of the depths of the spirit without the help of sense-perception, into the inductive method, and vice versa of transforming the inductive method, which desires to arrive at conclusions, concepts, or understanding exclusively by means of sense-perception, into the speculative method, by virtue of its simultaneous spiritual nature. Our problem is to analyze the concept of thought, or of the faculty of

thought, or of reason, of knowing, of science, by means of thought.

To produce thoughts and to analyze them is the same thing inasmuch as both actions are functions of the brain. Both have the same nature. But they are different to the same extent that instinct differs from consciousness. Man does not think originally because he wants to, but because he must. Ideas are produced instinctively, involuntarily. In order to become fully aware of them, to place them within the grasp of knowing and willing, we must analyze them. From the experience of walking, for instance, we derive the idea of walking. To analyze this idea means to solve the question, what is walking generally considered what is the general nature of walking? We may answer: Walking is a rythmical motion from one place to another, and thus we raise the instinctive idea to the position of a conscious analyzed idea. An object is not consciously, theoretically, understood, until it has been analyzed. In examining what elements constitute the concept of walking, we find that the general attribute of that experience which we agree in calling "walking" is a rythmical motion. In actual experience steps may be long or short, may be taken by two feet or by more, in brief may be varied. But as a concept walking is simply a rythmical motion, and the analysis of this concept furnishes us with the conscious understanding of this fact. The concept of light existed long before science analyzed it, before it was understood that undulations of the ether form the elements which constitute the concept of light. Instinctive and analytical ideas differ in the

same way in which the thoughts of every day life differ from the thoughts of science.

The analysis of any idea and the theoretical analysis of any object, or of the thing which suggested the idea, is one and the same. Every idea corresponds to some real object. Ludwig Feuerbach has demonstrated that even the concepts of God and immortality are reflections of real objects which can be perceived by the senses. For the purpose of analyzing such ideas as animal, light, friendship, man, etc., the phenomena, the objects, such as animals, friendships, men, and lights, are analyzed. The object which serves for the analysis of the concept "animal" is no more any single animal, than the object of the concept "light" is any single light. These concepts comprise classes, things in general, and therefore the question, or the analysis, of what constitutes the animal, the light, friendship, must not deal with any concrete, but with the abstract elements of the whole class.

The fact that the analysis of a concept and the analysis of its object appear as two different things is due to our faculty of being able to separate things into two parts, viz., into a practical, tangible, perceptible, concrete thing and into a theoretical mental, thinkable, general thing. The practical analysis is the premise of the theoretical analysis. The individually perceptible animals serve us as a basis for the analysis of the animal concept, the individually experienced friendships as the basis for the analysis of the concept of friendship.

Every idea corresponds to an object which may be practically separated into its component parts. To analyze a concept is equivalent, therefore, to analyzing

a previously experienced object by theoretical means. The analysis of a concept consists in the understanding of the common or general faculties of the concrete parts of the analyzed object. That which is common to the various modes of walking, the rythmical motion, constitutes the concept of walking, that which is common to the various manifestations of light constitutes the concept of light. A chemical factory analyzes objects for the purpose of obtaining chemicals, while science analyzes them for the purpose of obtaining their concepts.

The special object of our analysis, the faculty of thought, is likewise distinguished from its concept. But in order to be able to analyze this concept, we must analyze the object. It cannot be analyzed chemically, for not everything is a matter of chemistry, but it may be analyzed theoretically or scientifically. As we have already stated, the science of understanding deals with all objects. But all objects which this science may wish to analyze theoretically, must first be handled practically. According to their special natures, they must either be handled in various ways, or carefully inspected, or scrutinized by intent listening, in short they must be thoroughly experienced in some way.

It is a fact of experience that men think. The object or suggestion is furnished by facts, and we then derive the concept instinctively. Thus, to analyze the faculty of thought means to find that which is common or general to the various personal and temporary processes of thought. In order to follow this study by the methods of natural science, we require neither physical instruments nor chemical re-

agents. The sense perception which is indispensable for every scientific understanding, is so to say present in this case *a priori*, without further experience. Every one possesses the object of our study, the fact of thought faculty and its experience, in the memories of himself or herself.

We have seen that thought like any other activity as well as its scientific analysis is everywhere developing the general or abstract out of particular and concrete sense perceptions. We now express this in the following words: The common feature of all separate thought-processes consists in their seeking the general character or unity which is common to all objects experienced in their manifold variety by sense perceptions. The general element which is common to the different animals, or to the different manifestations of light, is that which constitutes the general animal or light concept. The general is the nature of all concepts, of all understanding, all science, all thought processes. Thus we arrive at the understanding that the analysis of the faculty of thought reveals its nature of finding that which is general and common to concrete and distinct things. The eye studies the visible, the ear the audible, and our brain that which is generally conceivable.

We have seen that thought like any other activity requires an object; that it is unlimited in the choice of its objects, because all things may become the objects of thought; that these objects are perceived in manifold forms by various senses; and that they are transformed into simple ideas by extricating that which they possess in common, which is similar, which is general in them. If we apply this expe-

rienced understanding of the general method of thought processes to our special object, the faculty of thought, we realize that we have thus solved our problem, because all we were looking for was the general method of the thought process.

If the development of the general out of the concrete constitutes the general method by which reason arrives at understanding, then we have fully grasped reason as the faculty of deriving the general out of the concrete.

Thinking is a physical process and it cannot exist or produce anything without materials any more than any other process of labor. My thought requires some material which can be thought of. This material is furnished by the phenomena of nature and life. These are the concrete things. In claiming that the universe, or all things, may be the object of thought, we simply mean that the materials of the thought process, the objects of the mind, are infinite in quantity and quality. The materials which the universe furnishes for our thought are as infinite as space, as eternal as time, and as absolutely manifold as the nature of these two forms of being. The faculty of thought is a universal faculty in so far as it enters into relations with all things, all substances, all phenomena, and thus generates thought. But it is not absolute, since it requires for its existence and action the previous presence of matter. Matter is the boundary, beyond which the mind cannot pass. Matter furnishes the background for the illumination of the mind, but is not consumed in this illumination. Mind is a product of matter, but matter is more than a product of mind, being perceived also through the five senses and thus brought to our notice. We call

real, objective products, or "things themselves" only such products as are revealed to us simultaneously by the senses and the mind.

Reason is a real thing only in so far as it is perceived by the senses. The perceptible actions of reason are revealed in the brain of man as well as in the world outside of it. For are not the effects tangible by which reason transforms nature and life? We see the successes of science with our eyes and grasp them with our hands. It is true that science or reason cannot produce such material effects out of themselves. The world of sense perceptions, the objects outside of the human brain, must be given. But what thing is there that has any effects "in itself?" In order that light may shine, that the sun may warm, and revolve in its course, there must be space and other things which may be lighted and warmed and passed. In order that my table may have color, there must be light and eyes. And everything else which my table is besides, it can be only in contact with other things. Its being is just as manifold as those various contacts or relations. In short, the world consists only in its interrelations. Any thing that is torn out of its relations with the world ceases to exist. A thing is anything "in itself" only because it is something for other things, by acting or appearing in connection with something else.

If we wish to regard the world in the light of the "thing itself," we shall easily see that the world "itself" and the world as it appears, the world of phenomena, differ only in the same way in which the whole differs from its component parts. The world "itself" is nothing else but the sum total of its phe-

nomena. The same holds good of that part of the world phenomena which we call reason, spirit, faculty of thought. Although we distinguish between the faculty of thought and its phenomena or manifestations, yet the faculty of thought "itself," or "pure" reason, exists in reality only in the sum total of its manifestations. Seeing is the physical existence of the faculty of sight. We possess the whole only by means of its parts, and we can possess reason, like all other things, only by the help of its effects, by its various thoughts. But we repeat that reason does not precede thought in the order of time. On the contrary thoughts generated by perceptible objects serve as a basis for the development of the concept of the faculty of thought. Just as the understanding of the world movements has taught us that the sun is not revolving around the earth, so the understanding of the thought process tells us that it is not the faculty of thought which creates thought, but vice versa, that the concept of this faculty is created out of a series of concrete thoughts. Hence the faculty of thought practically exists only as the sum total of our thoughts, just as the faculty of sight exists only through the sum of the things that we see.

These thoughts, this practical reason, serve as the material out of which our brain manufactures the concept of "pure" reason. Reason is necessarily impure in practice, which means that it must connect itself with some object. Pure reason, or abstract reason without any special content, cannot be anything else but the general characteristic of all concrete reasoning processes. We possess this general nature of reason in two ways: In an impure state,

that is as practical and concrete phenomenon, consisting of the sum of our real perceptions, and in a pure state, that is theoretically or abstractly, in the concept. The phenomenon of reason is distinguished from reason "itself" just as the real animals are distinguished from the concept of the animal.

Every actual reasoning process is based on some real object which has many qualities like all things in nature. The faculty of thought extracts from this many-sided object those properties which are general or common with it. A mouse and an elephant, as the objects of our reasoning activity, lose their differences in the general animal concept. Such a concept combines many things under one uniform point of view, it develops one general idea out of many concrete things. Since understanding is the general or common quality of all reasoning processes, it follows that reason in general, or the general nature of the reasoning process, consists in abstracting the general ideal character from any concrete thing perceptible by the help of the senses.

Reason being unable to exist without some objects outside of itself, it is understood that we can perceive "pure" reason, or reason "itself," only by its practical manifestations. We cannot find reason without objects outside of it with which it comes in contact and produces thought, any more than we can find any eyes without light. And the manifestations of reason are as varied as the objects which supply its material. It is plain, then, that reason has no separate existence "in itself," but that on the contrary the concept of reason is formed out of the material supplied by the senses.

Mental processes appear only in connection with perceptible phenomena. These processes are themselves phenomena of sense perception which, in connection with a brain process, produce the concept of the faculty of thought "itself." If we analyze this concept, we find that "pure" reason consists in the activity of producing general ideas out of concrete materials, which include so-called immaterial thoughts. In other words, reason may be characterized as an activity which seeks for unity in every multiplicity and equalizes all contrasts whether it deals with the many different sides and parts of one or of more objects. All these different statements describe the same thing in different words, so that the reader may not cling to the empty word, but grasp the living concept, the manifold object, in its general nature.

Reason, we said, exists in a "pure" state as the development of the general out of the special, of the abstract out of concrete sense perceptions. This is the whole content of pure reason, of scientific understanding, of consciousness. And by the terms "pure" and "whole" we simply indicate that we mean the general content of the various thought processes, the general form of reason. Apart from this general abstract form, reason, like all other things, has also its concrete, special, sense form which we perceive directly through our experience. Hence our entire process of consciousness consists in the experience of the senses, that is in the physical process, and its understanding. Understanding is the general reflection of any object.

Consciousness, as the Latin root of the word indicates, is the knowledge of being in existence. It is a form, or a

quality, of existence which differs from other forms of being in that it is aware of its existence. Quality cannot be explained, but must be experienced. We know by experience that consciousness includes along with the knowledge of being in existence the difference and contradiction between subject and object, thinking and being, between form and content, between phenomenon and essential thing, between attribute and substance, between the general and the concrete. This innate contradiction explains the various terms applied to consciousness, such as the organ of abstraction, the faculty of generalization or unification, or in contradistinction thereto the faculty of differentiation. For consciousness generalizes differences and differentiates generalities. Contradiction is innate in consciousness, and its nature is so contradictory that it is at the same time a differentiating, a generalizing, and an understanding nature. Consciousness generalizes contradiction. It recognizes that all nature, all being, lives in contradictions, that everything is what it is only in co-operation with its opposite. Just as visible things are not visible without the faculty of sight, and vice versa the faculty of sight cannot see anything but what is visible, so contradiction must be recognized as something general which pervades all thought and being. The science of understanding, by generalizing contradiction, solves all concrete contradictions.

III

THE NATURE OF THINGS

In so far as the faculty of understanding is a physical object, the knowledge of its nature is a matter of physical science. But in so far as we understand all things by the help of this faculty, the science of understanding becomes metaphysics. Inasmuch as the scientific analysis of reason reverses the current conception of its nature, this specific understanding necessarily reverses our entire world philosophy. With the understanding of the nature of reason, we arrive at the long sought understanding of the "nature of things."

We wish to know, understand, conceive, recognize all things in their very nature, not in their outward appearance. Science seeks to understand the nature of things, or their true essence, by means of their manifestations. Every thing has its own special nature, and this nature is not seen, or felt, or heard, but solely perceived by the faculty of thought. This faculty explores the nature of all things just as the eye explores all that is visible in things. Just as the nature of sight is understood by the theory of vision, so the nature of things in general is understood by the theory of understanding.

It is true that it sounds contradictory to say that the nature of a thing does not appear to the eye, but

to the faculty of thought, and at the same time to imply that the opposite of appearance, nature, should appear. But we here refer to the nature of a thing as a phenomenon in the same way in which we referred to the mind as a perception of the senses, and we shall demonstrate further on that every being is a phenomenon, and every phenomenon is more or less of an essential thing.

We have seen that the faculty of thought requires for its vital activity an object, or raw material. The effect of reasoning is seen in science, no matter whether we understand the term science in its narrow classical sense or in its broadest meaning of any kind of knowledge. The phenomena of sense perception constitute the general object or material of science. Sense perceptions arise from infinite circulation of matter. The universe and all things in it consist of transformations of matter which take place simultaneously and consecutively in space and time. The universe is in every place and at any time itself, new, and present for the first time. It arises and passes away, passes and arises under our very hands. Nothing remains the same, only the infinite change is constant, and even the change varies. Every particle of time and space brings new changes. It is true that the materialist believes in the permanency, eternity, indestructibility of matter. He teaches us that not the smallest particle of matter has ever been lost in the world, that matter simply changes its forms eternally, but that its nature lasts indestructibly through all eternity. And yet, in spite of all distinctions between matter itself and its perishable form, the materialist is on the other hand more

inclined than any one else to dwell on the identity of matter and its forms. Inasmuch as the materialist speaks ironically of formless matter and matterless forms, in the same breath with perishable forms of imperishable matter, it is plain that materialism is not informed any more than idealism as to the relation of content to form, of a phenomenon to the essential nature of its subject. Where do we find such eternal, imperishable, formless matter? In the world of sense perceptions we never meet anything but forms of perishable matter. It is true that there is matter everywhere. Wherever anything passes away, something new instantly arises. But nowhere has any homogeneous, unchangeable matter enduring without any form, ever been discovered. Even a chemically indivisible element is only a relative unit in its actual existence, and in extension of time as well as in extension through space it varies simultaneously and consecutively as much as any organic individual which also changes only its concrete forms, but remains the same in its general nature from beginning to end. My body changes continually its fleshy tissue, bones, and every other particle belonging to it, and yet it always remains the same. What constitutes, then, this body which is distinguished from its transient form? It is the sum total, in a generalized way, of all its varied concrete forms. Eternal and imperishable matter exists in reality only as the sum total of its perishable forms. The statement that matter is imperishable cannot mean anything but that there will always and everywhere be matter. It is just as true to say that matter is imperishable and merely changes its forms, as it is to say that matter

exists only in its changing forms, that it is matter which changes and that only the change is eternal. The terms "changeable matter" and "material change" are after all only different expressions for the same thing.

In the practical world of sense perceptions, there is nothing permanent, nothing homogeneous, nothing beyond nature, nothing like a "thing itself." Everything is changing, passing, phantomlike, so to say. One phantom is chased by another. "Nevertheless," says Kant, "things are also something in themselves," for otherwise we should have the absurd contradiction that there could be phenomena without things that produce them." But no! A phenomena is no more and no less different from the thing which produces it than the stretch of a twenty-mile road is different from the road itself. Or we may distinguish between a knife and its blade and handle, but we know that that there would be no knife if there were no blade and no handle. The essential nature of the universe is change. Phenomena appear, that is all.

The contradiction between the 'thing itself,' or its essence, and its outward appearance is fully solved by a complete critique of reason which arrives at the understanding that the human faculty of thought may generalize any number of varied sense perceptions under one uniform point of view, by singling out the general and equivalent forms and thus regarding everything it may meet as a concrete part of one and the same whole.

In other words, the relative and transient forms perceived by our senses serve as raw material for our brain activity, which abstracts the general likeness out

of the concrete forms and systematizes or classifies them for our consciousness. The infinite variety of sense perceptions passes in review before our subjective mind, and it constructs out of the multiplicity the unity, out of the parts the whole, out of the phenomena the essential nature, out of the perishable the imperishable, out of the attributes the subject. The essence, the nature of things, the "thing itself" is an ideal, a spiritual conception. Consciousness knows how to make sums out of different units. It can take any number of units for its sums. The entire multiplicity of the universe is theoretically conceived as one unit. On the other hand, every abstract sum consists in reality of an infinite number of sense perceptions. Where do we find any indivisible unit outside of our abstract conceptions? Two halves, four fourths, eight eighths, or an infinite number of separate parts form the raw material out of which the mind fashions the mathematical unit. This book, its leaves, its letters, or their parts, are they units? Where do I begin, where do I stop? In the same way, I may call a library with many volumes, a house, a farm, and finally the whole universe, a unit. Is not everything a part, is not every part a thing? Is the color of a leaf less of a thing than that leaf itself? Perhaps some would call the color simply an attribute and the leaf its substance, because there might be a leaf without color, but no color without a leaf. But as surely as we exhaust a heap of sand by scattering it, just as surely do we remove all the substance of a leaf when we take away its attributes one after the other. Color is only the sum of reactions of leaf, light, and eye, and so is all the rest of the matter of a leaf an aggregate of

interactions. In the same way in which our reason deprives a leaf of its color attributes and sets it apart as a "thing itself," may we continue to deprive that leaf of all its other attributes, and in so doing we finally take away everything that makes the leaf. Color is in its nature no less a substance than the leaf itself, and the leaf is no less an attribute than its color. As the color is an attribute of a leaf, so a leaf is an attribute of a tree, a tree an attribute of the earth, the earth an attribute of the universe. The universe is the substance, substance in general, and all other substances are but its attributes. And this world-substance reveals the fact that the nature of things, the "thing itself" as distinguished from its manifestations, is only a concept of the mind.

In its universal search from the attribute to the substance, from the relative to the absolute, from the appearance of things to the true things, the mind finally arrives at the understanding that the substance is nothing but a sum of attributes collected by brain activity, and that the mind itself, or reason, is a substantial being which creates abstract mental units out of a multitude of sense perceptions and conceives of the universe as an absolute whole, as an independent "thing itself," by adding all its transient manifestations. In turning away full of dissatisfaction from attributes, searching restlessly after the substance, throwing aside phenomena, and forever groping for truth, for the nature of things, for the "thing itself," and in finally realizing that this substantial truth is merely the sum of all so-called untruths, the totality of all phenomena, the mind proves itself to be the creator of the abstract concept of substance. But it did not

create this concept out of nothing. On the contrary, it generated the concept of a world substance out of attributes, it derived truth out of manifestations of things.

The idealist conception that there is an abstract nature behind phenomena which materialises itself in them, is refuted by the understanding that this hidden nature does not dwell in the world outside of the human mind, but in the brain of man. But since the brain differentiates between phenomena and their nature, between the concrete and the general, only by means of sense perception, it cannot be denied that the distinction between phenomena and their nature is well founded; only the essential nature of things is not found back of phenomena, but by means of phenomena. This nature is materially existent and our faculty of thought is a real and natural one.

It is true of spiritual things as well as of physical ones, in fact it is true of all things, metaphysically speaking, that they are what they are, not "in themselves," not in their abstract nature, but in contact with other things, in reality. In this sense one might say that things are not what they seem, but manifest themselves because they are existent, and they manifest themselves in as many different ways as there are other things with which they enter into relations of time and space. But the statement that things are not what they seem requires, in order to be rightly understood, the modification that whatever manifests itself, exists in nature, and its existence is limited by its manifestations. "We cannot perceive heat itself," says a book on physics written by Professor Koppe, "we merely conclude from its manifestations that it is present in nature." Thus reasons a naturalist who

seeks to understand a thing by practical and diligent study of its manifestations, but who seeks refuge in the speculative belief in a hidden "thing itself" whenever a lack of understanding of the fundamentals of logic embarrasses him. We, on the contrary, conclude that there is no such thing as "heat itself," since it cannot be found, in nature, and we conceive of heat as effects of matter which the human brain translated into the conception of "heat itself." Because science was, perhaps, as yet unable to analyse this conception, the profesor says we cannot perceive the natural object which gives rise to this conception. "Heat itself" is simply composed of the sum total of its manifold effects, and there is nothing else to it. The faculty of thought generalizes this variety of effects under the concept of heat in general. The analysis of this conception, the discovery of the general character of the various manifestations of heat, is the function of inductive science. But the conception of heat separated from its effects is a speculative idea, similar to Lichtenberg's knife without handle and blade.

The faculty of thought in touch with sense preceptions produces the nature of things. But it produces them no more independently of things outside than do the eye, the ear, or any other sense of man. It is not the "things themselves" which we see or feel, but their effects on our eyes, hands, etc. The faculty of reason to generalize different perceptions of the eye permits us to distinguish between concrete sights and sight in general. The faculty of thought conceives of any concrete sight as an object of sight in general. It furthermore distinguishes between subjective and objective sight perceptions, the latter being sights which are visi-

ble not alone to the individual eye, but to eyesight in general. Even the visions of a spiritualist, or such subjective impressions as forked lightning, circles of fire, caused by excited blood of closed eyes, serve as objects for the critical consciousness. A glittering object revealed by bright sunlight miles away is no more and no less tangible in substance, no more and no less true, than any optical illusion. A man whose ear is tingling hears something, though it is not the tinkling of bells. Every sense perception is an object, and every object is a sense perception. The object of any subjective mind is a passing manifestation, and every objective perception is but a perishable subject. The object of observation may exist in a more tangible, less approachable, more stable, or more general form, but it is not a "thing itself." It may be perceived not alone by my eyes, but also by those of others, not by the eyes, but also by the feeling, the hearing, the taste, etc. And it may be noticed not alone by men, but also by other objects. But nevertheless it appears only as a manifestation, it is different in different places, it is not today what it is tomorrow. Every existence is relative, in touch with other things, and entering into different relations of time and space with them.

Every sense perception is an actual and natural object. Truth exists in the form of natural phenomena, and whatever is, is true. Substance and attribute are only terms for certain relations. They are not contradictions, and, as a matter of fact, all contradictions disappear before our faculty of generalization and differentiation. For this faculty reconciles all contradictions by finding a general quality in all differences. Existence, or universal truth, is the general object, the

raw material, of the faculty of thought. This material is of the utmost variety and supplied by the senses. The senses reveal to us the substance of the universe in the forms of concrete qualities, in other words, the nature of perceptible matter is revealed to the faculty of thought through a variety of concrete forms. It is not perceived as a general essence, but only through interdependent phenomena. Out of the interdependence of the sense perceptions with our faculty of thought there arise quantities, general concepts, things, true perceptions, or understood truths.

Essence and truth are two terms for the same thing. Truth, or the essence and nature of things, is a theoretical concept. As we have seen, we receive impressions of things in two ways, viz., a sense impression and a mental impression, the one practical, the other theoretical. Practice furnishes us with the sense impression, theory with the mental nature of things.

Practice is the premise of theory, sense perception the premise of the nature which is also called the truth. The same truth manifests itself in practice either simultaneously or consecutively in the same place or in different places. It exists theoretically as a homogeneous conception.

Practice, phenomena, sense perceptions, are absolute qualities, that is to say they have no quantitative limitation, they are not restricted by time or space. They are absolute and infinite qualities. The qualities of a thing are as infinite as its parts. On the other hand, the work of the faculty of thought, of theory, creates at will an infinite number of quantities and it conceives every quality of sense *perceptions* in the form of quantities, as the essential nature of things, as

truths. Every conception has a quality of some sense perception for its object. Every object can be conceived by the faculty of thought only as a quantitative unit, as true nature, as truth.

The faculty of thought produces in contact with sense perceptions that which manifests itself as true nature, as a general truth. A primitive concept accomplishes this at first only instinctively, while a scientific concept is a conscious and voluntary repetition of this primitive act. Scientific understanding wanting to know an object, such as for instance heat, is not hunting after the phenomena themselves. It does not aim to see or hear how heat melts iron or wax, how it benefits in one case or injures in another, how it makes eggs solid or ice liquid, nor does it concern itself with the difference between the heat of an animal, of the sun, or of a stove. All these things are from the point of view of the faculty of understanding, only effects, phenomena, qualities. It desires to get at the essence, the true nature of things, it strives to find a general law, a concise scientific extract, of things seen, heard, and felt. The abstract nature of things cannot be a tangible object. It is a concept of theory, of science, of the faculty of thought. The understanding of heat consists in singling out that which is common to all phenomena of heat, which is essential or true for all heat. *Practically the nature of heat consists of the sum total of all its manifestations, theoretically in its concept, scientifically in the analysis of this concept. To analyze the concept of heat means to ascertain that which is common to all manifestations of heat.*

The general nature of the thing is its true nature,

the general quality its true quality. We define rain more truly as being wet than as being fertilizing, because it gives moisture wherever it falls, while it fertilizes only under certain circumstances and in certain places. My true friend is one who is constant and loyal to me all my life under all circumstances. Of course, we must not believe in any absolute and unconditional friendship any more than in any absolute and eternal truth. Perfectly true, perfectly universal, is only the general existence, the universe, the absolute quantity. But the real world is absolutely relative, absolutely perishable, an infinity of manifestations, an infinity of qualities. All truths are simply parts of this world, partial truths. Semblance and truth flow dialectically into one another like hard and soft, good and bad, right and wrong, but at the same time they remain different. Even though I know that there is no rain which is "fertile in itself," and no friend who is true in an absolute sense, I may nevertheless refer to a certain rain as fertile in relation to certain crops, and I may distinguish between my more or less true friends.

The universe is the truth. The universe is that which is universal, that is, things which exist and are perceived. The general mark of truth is existence, because universal existence is truth. Now, existence is not a general abstraction, but a reality in the concrete form of sense perceptions. The world of sense perceptions has its true and perceptible existence in the passing and manifold manifestations of nature and life. Therefore all manifestations are recognized as relative truths, all truths as concrete and temporal manifestations. The manifestation of practice is con-

sidered as a truth in theory, and vice versa, the truth of theory is manifested in practice. Opposites are mutually relative. Truth and error differ only comparatively, in volume of degree, like being and seeming, life and death, light and dark, like all other opposites in the world. It is a matter of course that all things of this world are worldly, consequently are of the same matter, the same nature, the same family, the same quality. In other words, every volume of perceptible manifestation forms in contact with the human faculty of thought a being, a truth, a general thing. For our consciousness, every particle of dust as well as every dust cloud, or any other mass of material manifestations, is on the one hand an abstract "thing in itself," and on the other a passing phenomenon of the absolute object, the universe. Inside of this universe the various manifestations are systematized or generalized at will and on purpose by means of our mind. The chemical element is as much a manysided system as the organic cell or the whole vegetable kingdom. The smallest and the largest being is divided into individuals, species, families, classes, etc. This systematization, this generalization, this generation of beings is continued in an ascending scale up to the infinity of the universe, and in the descending scale down to the infinity of the parts. In the eyes of the faculty of thought all qualities become abstract things, all things relative qualities.

Every thing, every sense perception, no matter how subjective or shortlived it may be, is true, is a certain part of truth. In other words, the truth exists, not only in the general existence, but every concrete existence has also its own distinct generality or truth. Every

object, whether it be a mere passing idea, or a volatile scent, or some tangible matter, constitutes a sum of manifold phenomena. The faculty of thought turns various quantities into one, discerns the equality in different things, seeks the unity in the multiplicity. Mind and matter have at least actual existence in common. Organic nature agrees with inorganic nature in being material. It is true that there are wide divergences between man, monkey, elephant, and plants attached to the soil, but even greater differences are reconciled under the term "organism." However much a stone may differ from a human heart, thinking reason will discover innumerable similarities in them. They at least agree in being matter, they are both visible, tangible, and may be weighed, etc. Their differences are as manifold as their likenesses. Solomon truly says that there is nothing new under the sun, and Schiller also says truly that the world grows old and again grows young. What abstract thing, being, existence, generality is there that is not manifold in its sense manifestations, and individually different from all other things? There are no two drops of water alike. I am now in many respects different from what I was an hour ago, and the likeness between my brother and myself is only relatively greater than the likeness between a watch and an oyster. In short, the faculty of thought is a faculty of absolute generalization, it classes all things without exception under one head, it comprises and understands everything uniformly, while sense perceptions show absolutely everything in a different, new and individual light.

If we apply this metaphysics* to our study, the fac-

*E. g., this all-embracing physics.—EDITOR.

ulty of thought, we see that its functions, like all other things, are material manifestations, which are all equally true. All manifestations of the mind, all ideas, opinions, errors, partake of a certain truth, all of them have a kernel of truth. Just as inevitably as a painter derives all forms of his creation from perceptible objects around him, so are all ideas, images of true things, theories of true objects. So far as perceptions are perceptions, it is a matter of course that all perceptions perceive something. So far as knowledge is knowledge, it requires no explanation that all knowledge knows something. This follows from the rule of identity, according to which a equals a , or from the rule of contradiction, according to which 100 is not 1,000.

All perceptions are thoughts. One might claim, on the other hand, that all thoughts are not perceptions. One might define "perceiving" as a special kind of thought, as real objective thought in distinction from supposing, believing, or imagining. But it cannot be denied that all thoughts have a common nature, in spite of their many differences. Thought is treated in the court of the faculty of thought like all other things, it is made uniform. No matter how different the thoughts I had yesterday may be from those I have to-day, no matter how much the thoughts of different human beings may vary at different times, no matter how clearly we may distinguish between such thoughts as those expressed by the terms idea, conception, judgment, conclusion, impression, etc., they each and all possess the same common and universal nature, because all of them are manifestations of mind.

It follows, then, that the difference between true and erroneous thoughts, between understanding and misunderstanding, like all other differences, is only relative. A thought "in itself" is neither false nor true, it is either of these only in relation to some other object. Thoughts, conceptions, theories, natures, truths, all have this in common that they belong to some object. We have seen that any object is a part of the multiplicity of sense perceptions in the world outside of our brains. After as much of the universal being as constitutes the object which is to be understood has been defined by some customary term of language, truth is to be found in the discovery of the general nature of this perceptible part of being.

The perceptible parts of being which constitute the things of this world have not only a semblance and manifestation, but also a true nature which is given by means of their manifestation. The nature of things is as infinite in number as the world of sense perceptions is infinitely divisible in space and time. Every part of any phenomenon has its own nature, every special phenomenon has its general truth. A phenomenon is perceived in touch with the senses, while the true or essential nature of things is perceived in contact with our faculty of thought. In this way we find ourselves face to face with the necessity of speaking here, where the nature of things is up for discussion, simultaneously of the faculty of thought, and on the other hand of dealing with the nature of things when the faculty of thought is our main subject.

We said at the outset: The criterion of truth includes the criterion of reason. Truth, like reason,

consists in developing a general concept, or an abstract theory, from a given sum of sense perceptions. Therefore it is not abstract truth which is the criterion of true understanding, but we rather refer to that understanding as being true which produces the truth, or the general hall-mark of any concrete object. Truth must be objective, that is to say it must be the truth about some concrete object. Perceptions cannot be true to themselves, they are true only in relation to some definite object, and to some outside facts. The work of understanding consists in the abstraction of the general hall-mark from concrete objects. The concrete is the measure of the general, the standard of truth. Whatever is, is true, no matter how much or how little true it may be. Once we have found existence, its general nature follows as truth itself. The difference between that which is more or less general, between being and seeming, between truth and error, is limited to definite conditions, for it presupposes the relation to some special object. Whether a perception is true or false will, therefore, depend not so much on perception as on the scope of the question which perception tries to solve of its own accord or which it is called upon to solve by external circumstances. A perfect understanding is possible only within definite limits. A perfect truth is one which is always aware of its imperfection. For instance, it is perfectly true that all bodies have weight only because the concept of "body" has previously been limited to things which have weight. After reason has assigned the conception of "body in general" to things of various weights, it is no longer a matter for surprise to find that bodies must inevitably have

weight. Once it is assumed that the term "bird" was abstracted exclusively from flying animals, we may be sure that all birds fly, whether they are in heaven, on earth, or in any other place. And to explain this we do not require the belief in *a priori* conceptions which are supposed to differ from empirical conceptions by their strict necessity and generality. Truths are valid only under certain conditions, and under certain conditions errors may be true. It is a true perception that the sun is shining, provided we understand that the sky is not covered by clouds. And it is no less true that a straight stick becomes crooked in flowing water, provided we understand that this truth is an optical one. *Truth is that which is common or general to our reasoning faculty within a given circle of sense perceptions. To call within a definite circle of sense perceptions that which is exceptional or special the rule or the general, is error.* Error, the opposite of truth, arises when the faculty of thought, or consciousness, inadvertently or shortsightedly and without previous experience concedes to certain phenomena a more general scope than is supported by the senses, for instance when it hastily attributes to what is in fact only an optical existence, a supposed plastic existence also.

The judgment of error is a prejudice. Truth and error, understanding and misunderstanding, knowing and not knowing, have their common habitation in the faculty of thought which is the organ of science. Thought at large is the general expression of experienced facts perceived by the senses, and it includes errors as well. Error is distinguished from truth in that the former assigns to any definite fact of which

it is a manifestation, a wider and more general existence than is supported by sense perceptions and experience. Unwarranted assumption is the nature of error. A glass bead does not become a counterfeit, until it pretends to be a genuine pearl.

Schleiden says of the eye: "When the excited blood expands the veins and presses on the nerves, we feel it in the fingers as pain, we see it in the eyes as forked lightning. And thus we obtain the irrefutable proof that our conceptions are free creations of the mind, that we do not perceive the external world as it really is, but that its reflex actions on us simply give rise to a peculiar brain activity, on our part. The products of this activity are frequently connected with certain processes of the external world, but frequently they are not. We close our eyes and we see a circle of light, but there is in reality no shining body. It is easy to see that this may be a great and dangerous source of errors of all kinds. From the teasing forms of a misty moonlight night to the threatening and insanity-producing visions of the believer in ghosts we meet a series of illusions which are not derived from any direct processes of external nature, but belong to the field of the free activity of the mind which is subject to error. It requires great judgment and wide education, before the mind learns to break away from all its own errors and to control them. Reading in general seems so easy, and yet it is a difficult art. It is only by degrees that the mind learns to understand which of the messages of the nerves may be trusted and used as a basis for conceptions. The light, if we consider it entirely by itself, is not clear, not yellow, nor blue nor red. The light is a

movement of a very fine and everywhere diffused substance, the ether."

The beautiful world of light and splendor, of color and form, is supposed not to be a perception of something which really is. "Through the thick covering of the grape arbor, a ray of sunlight undulates into the cooling shadows. You think you see the ray of light itself, but what you really see is nothing but a flock of dust particles." The truth about light and color is said to be that they are "waves rushing through ether in restless succession at the rate of 160,000 miles per second." This true physical nature of light and color is supposed to be so illusive, that "it required the sharp intellects of the greatest thinkers to reveal to us this true nature of light. We find that every one of our senses is susceptible only to definite external influences, and that the stimulation of different senses produces different conceptions in our mind. Thus the sense organs are the mediators between the external soulless world (undulations of the ether), which is revealed to us by science, and the beautiful world of sense perceptions in which we find ourselves with our minds."

Schleiden thus gives an illustration of the fact that there is still a great deal of embarrassment, even in our times, when the understanding of these two worlds is under discussion, that there is still much helpless groping to explain the connection between the world of thought, of knowledge or science, which is in this case represented by undulations of the ether, and between the world of our five senses, represented by the bright and colored lights of the eyes or of reality. At the same time this illustration shows how

queer the traditional survivals of speculative philosophy sound in the mouth of a modern scientist. The confused condition of this mode of thought is seen in the distinction between "an external sense-perceived world of science" and another one, "in which we find ourselves with our minds." The distinction between the senses and the mind, between theory and practice, between the special and the general, between truth and error, has been noticed by such thinkers, but they have no solution for it. They know there is something missing, but they do not know where to look for it, and therefore they are confused.

The great scientific achievement of the XIXth century consists in the victory over speculation, over knowledge without sense perception, in the delivery of the senses from the thralldom of such knowledge, and in the foundation of empirical investigation. To acknowledge the theoretical value of this achievement means to come to an understanding about the source of error. Contrary to a philosophy that tries to discover truth with the mind, and error with the senses, we seek for truth with the senses and regard the mind as the source of errors. The belief in certain messages of the nerves which are alone worthy of confidence and which can be understood only by degrees without any specific mark of distinction, is a superstition. Let us have confidence in all testimonials of the senses. There is nothing false to be separated from the genuine. The supernatural mind idea is the only deceiver whenever it undertakes to disregard the sense perceptions, and, instead of being the interpreter of the senses, tries to enlarge their statements and repeat what has not been dictated. The eye, in seeing forked

lightning or radiant circles when the blood is excited or a pressure exerted on it, perceives no more errors than it does in perceiving any other manifestation of the external world. It is our faculty of thought which makes a mistake, by regarding without further inquiry such subjective events as objective bodies. One who sees ghosts does not commit any mistake, until he claims that his personal apparition is a general phenomenon, until he prematurely takes something for an experience which he has not experienced. Error is an offense against the law of truth which prescribes to our consciousness that it must remember the limits within which a perception is true, or general. Error makes out of something special a generality, out of a predicate a subject, and takes the part for the whole. Error makes *a priori* conclusions, while truth, its opposite, arrives at understanding by *a posteriori* reasoning.

A priori and *a posteriori* understanding are related in the same way as philosophy and natural science, taking the latter in the widest meaning of the term, that of science in general. The contrast between believing and knowing is duplicated in that between philosophy and natural science. Speculative philosophy, like religion, lives on faith. The modern world has transformed faith into science. The reactionists in politics who demand that science retrace its steps desire its return to faith. The content of faith is acquired without exertion. Faith makes *a priori* perceptions, while science arrives at its knowledge by hard *a posteriori* study. To give up faith means to give up taking things easy. And to confine science to *a posteriori* knowledge means to decorate it with the characteristic mark of modern times, work.

It is not a result of scientific study, but merely a freak of philosophy on the part of Schleiden to deny the reality and truth of light phenomena, to call them *fantasmagoria* created by the free play of the mind. His superstitious belief in philosophical speculation misleads him into abandoning the scientific method of induction and speaking of "waves rushing through ether in restless succession at the rate of 160,000 miles per hour" as being the real and true nature of light and color, in contradistinction to the color phenomena of light. The perversion of this mode of procedure becomes evident by his referring to the material world of the eyes as a "creation of the mind" and to the undulations of the ether, revealed by the "sharp intellect of the greatest thinkers" as "physical nature."

The truth of science maintains the same relation to the sense perception that the general does to the special. Waves of light, the so-called truth of light and color, represent the "true" nature of light only in so far as they represent what is common to all light phenomena, whether they are white, yellow, blue, or any other color. The world of the mind, or of science finds its raw material, its premise, its proof, its beginning, and its boundary in sense perception.

When we have learned that the nature, or the truth, of things is not back of their phenomena, but can be perceived only by the help of phenomena, and that it does not exist "in itself," but only in connection with the faculty of understanding, that the nature is separated from the phenomena only by thought; and when we see on the other hand, that the faculty of understanding does not derive conceptions out of itself, but only out of their relations with some phe-

nomenon; then this discussion of the "nature of things" is an evidence that the nature of the faculty of thought is a conception which we have obtained from its sense manifestations. To understand that the faculty of thought, although universal in the choice of its objects, is nevertheless limited in that it requires some object; to recognize that the true thought process, that is to say the thought with a scientific result, differs from unscientific thinking by consciously attaching itself to some external object; to realize that truth, or universality, is not perceived "in itself," but can be perceived only by means of some given object; this frequently varied statement reveals the nature of the faculty of thought. This statement re-appears at the end of every chapter, because all special truths, all special chapters, serve only to demonstrate the general chapter of universal truth.

IV

THE PRACTICE OF REASON IN PHYSICAL SCIENCE

Although we know that reason is attached to perceptible matter, to physical objects, so that science can never be anything else but the science of the physical, still we may, according to the prevailing ideas and usage of language, separate physics from logic and ethics, and thus distinguish them as different forms of science. The problem is then to demonstrate that in physics as well as in logic, as also in ethics, the general or intellectual perceptions can be practically obtained only on the basis of concrete perceptible facts.

This practice of reason, to generate thought from matter, to arrive at understanding by sense perceptions, to produce the general out of the concrete, has been universally accepted in physical investigation, but only in practice. The inductive method is employed, and one is aware of this fact, but it is not understood that the nature of inductive science is the nature of science in general, of reason. The process of thought is misunderstood. Physical science lacks the theory of understanding and for this reason often falls out of its practical step. The faculty of thought is still an unknown, mysterious, mystical being for natural science. Either it confounds the function with the organ, the mind with the brain, as do the ma-

terialists, or it thinks with the idealists that the faculty of thought is an imperceptible object outside of its field. We see modern investigators marching toward their goal with firm and uniform steps, so far as physical matters are concerned. But they aimlessly grope around in the abstract relations of these things. The inductive method has been practically adopted by natural science and its successes have secured a great reputation for it. On the other hand, the speculative method has become discredited by its failures. There is, however, no conscious understanding of these various methods of thought. We see the men of physical research, when they are outside of their special field, offer lawyer-like speculations in lieu of scientific facts. While they arrive at the special truths of their chosen fields by sense perceptions, they still pretend to derive speculative truths out of the depths of their own minds.

Listen to the following statements of Alexander von Humboldt, which he makes in the initial argument of his "Cosmos" in regard to speculation: "The most important result of physical research by sense perception is this: that it finds the element of unity in a multitude of forms; that it grasps all the individual manifestations offered by the discoveries of recent times, carefully scrutinizes and distinguishes them; yet does not succumb under their mass; that it fulfills the sublime mission of the human being, of understanding the nature of things which is hidden under the cover of phenomena. In this way our aim reaches beyond the narrow limits of the senses, and we may succeed in grasping the nature by controlling the raw material of empirical observation through

ideas. In my observations of the scientific treatment of general cosmic phenomena, I am not deriving unity out of a few fundamental principles found by speculative reason. My work is the expression of a thoughtful observation of empirical phenomena seen as one and the same nature. I am not going to venture into a field which is foreign to me. What I call physical cosmology does not, therefore, aspire to the rank of a rational science of nature. . . . True to the character of my former occupation and writings, which were devoted to experiments, measurements, and investigations of facts, I confine myself in this work to empirical observations. It is the only ground on which I can move with a measure of security." In the same breath Humboldt says that "without the earnest desire for the knowledge of concrete facts any great and universal world philosophy would be merely a castle in the air" and in another place that "an understanding of the universe by speculative and introspective reason would represent a still more sublime aim" than understanding by empirical thought. And on page 68 of volume I. he says: "I am far from finding fault with endeavors of others the success of which still remains in doubt, when I have had no practical experience with them."

Now natural science shares with Humboldt the consciousness that the practice of reason in physical research consists exclusively in "perceiving the element of unity in a multitude of forms." But on the other hand, though it does not always admit its belief in speculative introspection as frankly as Humboldt does, it nevertheless proves that it does not fully understand the practice of science and that it believes

in a metaphysical as well as a physical science by using the speculative method in the treatment of so-called philosophical topics, in which the element of unity is supposed to be discovered by introspective reason instead of an analysis of multiform sense perceptions, and it demonstrates its lack of unity by being unaware of the unscientific character of disagreements, by believing in a metaphysical science outside of the physical domain. The relations between phenomenon and its nature, cause and effect, matter and force, substance and spirit, are certainly physical ones. But what is there of unity that science teaches about them? Plainly then, the work of science, like that of the farmer, has so far been done only practically, but not scientifically, not with a predetermination of success. Understanding, that is to say the practice of understanding, is well applied in science, I readily admit. But the instrument of this understanding, the faculty of thought, it misunderstood. We find that natural science, instead of applying this faculty scientifically, simply experiments with it. What is the reason for this? Natural science has neglected the critique of reason, the theory of science, logic.

Just as the handle and the blade of a knife constitute its general content, so we found that the general content of reason was the universal, the general "itself." We know that it does not produce this content out of itself, but out of given objects, and these objects are the sum of all natural or physical things. The object of reason is, therefore, an infinite, unlimited, absolute quantity. This infinite quantity manifests itself in finite quantities. In the treatment of relatively small quantities of nature the true essence of reason,

the true method of understanding, is well recognized. It remains to be demonstrated that the great relations of the world, the treatment of which is still doubtful, are likewise intelligible by the same method. Cause and effect, mind and matter, matter and force, are such great world problems, and they are of a physical character. We shall demonstrate that the most general distinction between reason and its object furnishes the key to the solution of the great world problems.

(a) Cause and Effect.

"The nature of natural history," says F. W. Bessel, "lies in the fact that it does not consider phenomena as facts in themselves, but looks for their causes. The knowledge of nature is thus reduced to the minimum number of facts." But the causes of the phenomena of nature had been investigated even before the age of natural history. The characteristic mark of natural history is not so much that it investigates causes, but that the causes which it investigates have a peculiar nature and a particular quality.

Inductive science has materially changed the conception of causes. It has retained the term, but uses it in a different sense from that employed by speculation. The naturalist conceives of causes differently within his special field and outside of it; here, outside of his specialty, he frequently indulges in introspective speculation, because he understands science and its cause in a concrete, but not in a general way. The unscientific forces are of a supernatural make-up, they are transcendental spirits, gods, forces, little and big goblins. The original conception of causes is an anthropomorphic one. In a state of inexperience, man measures the objective

by a subjective standard, judges the world by himself. Just as he creates things with conscious intent, so he attributes to nature his human manner, imagines the existence of an external and creative cause of the phenomena of sense perception, similar to himself who is the special cause of his own creations. This subjective mood is to blame for the fact that the struggle for objective understanding has so long been in vain. The unscientifically conceived cause is a speculation of the *a priori* kind.

If the term understanding is retained for subjective understanding, then objective science differs from it in that such a science penetrates to the causes of its objects not by faith or introspective speculation, but by experience and induction, not *a priori*, but *a posteriori*. Natural science looks for causes not outside or back of nature's phenomena, but within or by means of them. Modern research seeks no external creator of causes, but rather the immanent system, the method or general mode of the various phenomena as they are given by succession in time. The unscientifically conceived cause is a "thing in itself," a little god who generates his effects independently and hides behind them. The scientific conception of causes, on the other hand, looks only for the theory of effects, the general element of phenomena. To investigate a cause means then to generalize a variety of phenomena, to arrange the multiplicity of experienced facts under one scientific rule. "The knowledge of nature is thus reduced to the minimum number of facts."

The commonplace and inept knowledge differs from the most exalted, rarest, and newly discovered science in the same way in which a petty and childish

superstition differs from the historical superstition of a whole period. For this reason we may well choose our illustrations from our daily circle, instead of looking for them in the so-called higher regions of a remote science. Human common sense had long practiced the investigation of causes by inductive and scientific methods, before science realized that it would have to pursue its higher aims in the same way. Common sense does arrive at the faith in a mysterious cause of speculative reason, just like the naturalist, as soon as it leaves the field of its immediate environment. In order to stand firmly on the ground of real science, every one requires the understanding of the manner in which inductive reason investigates its causes.

To this end let us glance briefly at the outcome of the study of the nature of reason. We know that the faculty of understanding is not a "thing in and by itself," because it becomes real only in contact with some object. But whatever we know of any object, is known not alone through the object, but also through the faculty of reason. Consciousness, like all other being, is relative. Understanding is contact with a variety of objects. To knowledge there is attached distinction, subject and object, variety in unity. Thus things become mutual causes and mutual effects. The entire world of phenomena, of which thought is but a part, a form, is an absolute circle, in which the beginning and end is everywhere and nowhere, in which everything is at the same time essence and semblance, cause and effect, general and concrete. Just as all nature is in the last instance one sole general unity, in view of which all other

unities become a multitude, so this same nature, or objectivity, or world of sense perceptions, or whatever else we may call the sum of all phenomena or effects, is the final cause of all things, compared to which all other causes become effects. But we must remember that this cause of all causes is only the sum of all effects, not a transcendental or superior being. Every cause has its effect, every effect causes something.

A cause cannot be physically separated from its effect any more than the visible can be separated from the eye, the taste from the tongue, in brief the general from the concrete. Nevertheless, the faculty of thought may separate the one from the other. We must keep in mind that this separation is a mere formality of thought, although it is a formality which is necessary in order to be reasonable or conscious, in order to act scientifically. The practice or understanding, or scientific practice, derives the concrete from the general, the natural things from nature. But whoever has been behind the scenes, and has looked at the faculty of thought at work, knows that, conversely the general is derived from the concrete, the concept of nature from natural things. The theory of understanding or science teaches us that the antecedent is understood by its consequent, the cause by its effect, while our practical understanding regards the after as a consequence of the before, the effect as a result of the cause. The faculty of understanding, the organ of generalization, regards its opposite, the concrete, as secondary, while the faculty of thought which understands itself regards it as primary. However, the practice of understanding is not to be changed by its

theory, nor can it be; the theory intends simply to render the steps of consciousness firm. The scientific farmer differs from the practical farmer, not because he employs theory and method, for both do that, but because he understands the theory, while the practical man theorizes instinctively.

To continue: From a given multitude of facts, reason generates truth in general, and out of a succession of forms and transformations it abstracts the true cause. Just as absolute multiplicity is the nature of space, so absolute variability is the nature of time. Every particle of time and space is new, original, and has never been there before. The faculty of thought enables us to find our way through this absolute medley by abstracting general concepts out of the multitude of things in space, and tracing the variations of time to general causes. The entire nature of reason consists in generalizing sense perceptions, in abstracting the common elements out of concrete things. Whoever does not fully understand reason by understanding that it is the organ of generalization forgets that understanding requires an object which must remain something outside of its conception, since such object cannot be dissolved by its conception. The being of the reasoning faculty cannot be understood any more than being in general. Or rather, being is understood when we take it in its generality. Not being itself, but the general element of being, is understood by the faculty of thought.

Let us realize, for instance, the process which takes place when reason understands something it did not know before. Think of some peculiar, unexpected and unknown chemical transformation which takes

place suddenly and without apparent cause in some mixture. Assume furthermore that the same reaction takes place more frequently after that, until experience demonstrates that this inexplicable change occurs whenever sunlight touches the mixture. This already constitutes a certain understanding of the process. Assume furthermore that subsequent experience teaches us that several other substances have the faculty of producing the same reaction in connection with sunlight. We have then arranged the new reaction in line with a number of phenomena of the same class, that is to say we have enlarged, deepened, completed our understanding of it still more. And if we finally discover that a special part of the sunlight unites with a special element of the mixture and thereby produces this new reaction, we have generalized this experience, or experienced this generalization, in a "pure" state, in other words, the theory of this reaction is complete, reason has solved its problem, and yet it has done nothing more than it did when it classified the animal and vegetable kingdoms in families, genera, species, etc. To find the species, the genus, the sex, etc., of anything means to understand it.

Reason proceeds in the same way when it investigates the causes of certain transformations. Causes are, in the last instance, not noticed and furnished by means of sight, hearing, feeling, not by means of the sense perceptions. They are rather supplied by the faculty of thought. It is true, causes are not the "pure" products of the faculty of thought, but are produced by it in connection with sense perceptions and their material objects. This raw material gives

the objective existence to the causes produced by the mind. Just as we demand that a truth should be the truth about some objective phenomenon, so we also demand that a cause should be real, that it should be the cause of some objective effect.

The understanding of any concrete cause is conditioned on the empirical study of its material, while the understanding of any general cause is based on the study of the faculty of reason. In the understanding of concrete causes, the material of study varies, but reason maintains a constant or general attitude. The cause, as a general cause, is a pure conception, and it is based on the study of the multiformity of concrete understandings of causes, or on the multiplied study of concrete causes. Hence we are compelled to return to the concrete material of the general concept, to the understanding of concrete causes, if we wish to analyze the concept of a general cause.

When a stone falls into the water and causes ripples on the surface, the stone is no more the cause of the ripples than the liquid condition of the water. If the stone falls on solid substances, it causes no ripples. It is the contact of the falling stone with liquid substances which causes the ripples. The cause is itself an effect, and the effect, the ripples, become a cause when they carry a piece of cork ashore. But in either case the cause is based on a mutual effect, on the interaction of the waves with the light condition of the cork.

A stone falling into the water is not a cause "in itself," not a cause in general. We arrive at such a cause only, when the faculty of thought uses concrete causes for its raw material and constructs out of them

the "pure" concept of the cause in general. A stone falling into the water is only the cause of the subsequent ripples, and it becomes a general cause only through the experience that ripples always follow the falling of a stone into water.

We call cause that which generally precedes a certain manifestation, and effect that which generally follows it. We refer to the stone as the cause of ripples merely because we know that it always causes them when falling into water. But since ripples sometimes appear without being preceded by the fall of a stone, ripples have another general cause. So far as there is anything general in ripples which precedes them, it is the elasticity of the water itself which is the general cause of ripples. Circular ripples, which are a special form of ripples, are generally preceded by the falling of some body into the water, and this body is then considered as their cause. The cause is always different in proportion and to the extent of the phenomena under consideration.

We cannot ascertain causes by mere introspective reasoning, we cannot derive them out of our head. Matter, materials, sense perceptions are required for this purpose. A definite cause requires a definite material, a definite amount of sense perceptions. In the abstract unity of nature, the variations of matter are represented by the variations of concrete quantities. Every quantity is given in time before and after a certain other quantity, as antecedent and subsequent. The general element of the antecedent is called cause, the general element of the subsequent, effect.

When the wind sways a forest, the yielding character of the forest is as much instrumental in producing

this effect as the bending power of the wind. The cause of a thing is its connection with other things. The fact that the same wind leaves rocks and walls standing shows that the cause is not qualitatively different from the effect, but that it is a matter of aggregate effects. If nevertheless science or knowledge determines any special fact to be the cause of any change, that is to say of any succession of phenomena, this cause is no longer regarded as the external creator, but merely as the general mode, the immanent method of succession. A definite cause can be ascertained only when we have under consideration a definite circle, series, or number of changes, the cause of which is to be determined. And within a definite circle of succeeding phenomena, that which generally precedes is their cause.

The wind which sways a forest differs from wind as a general cause only in that the latter has other general effects, inasmuch as it howls in one place, stirs up dust in another, or acts in many different ways. In the special case of the forest, the wind is a cause only in so far as it precedes the swaying of the trees. But in the case of rocks and walls, the solidity precedes the wind and is therefore the general cause of their resistance to the swaying power of the wind. In a still wider circle of hurricane phenomena, a gentle wind may be regarded as a cause of the stability of the objects last mentioned.

The *quantity* or *number* of given objects varies the name of their cause. If a certain company of people return from a walk in a tired condition, this change of condition is just as much due to the physical weakness of the people as to the walk. In other words,

a manifestation has in itself no cause which can be separated from it. Everything which was connected with a phenomenon has contributed toward its appearance. In the case of the promenaders, the physical constitution of their bodies has to be considered as well as the physical constitution and length of the road and duration of the walk. If reason is nevertheless called upon to determine the special cause of some concrete change, for instance, of a tired feeling, it is simply a question of determining which one of the various factors has contributed most to that feeling. In this case as well as in all others, the work of reason consists in developing the general from the concrete, that is to say in this case, singling out from a given number of tired sensations that which generally precedes the tired feeling. If most of the promenaders or all of them are found to be tired, the walk will be considered as the cause. But if only a few are tired, the weak constitution of these people will be considered as the general cause of their tired condition.

To use another illustration: If the discharge of a shot frightens some birds, this effect is due to the combined action of the shot and the timidity of the birds. If the majority of the birds fly away, the shot will be considered as the cause. But if the minority fly away, their timidity will be regarded as the cause.

Effects are subsequences. Since all things in nature follow other things and all things have an antecedent and a subsequent, we may call the natural, the real, the sense perceptions absolute effects, having no cause unless we find one with our faculty of thought by systematizing the given material. Causes are mental generalizations of perceptible changes. The sup-

posed relation of cause and effect is a miracle, a creation of something out of nothing. For this reason this relation has been and still is an object of speculative reasoning. The speculative cause creates its effects. But in reality the effects are the material out of which the brain, or science, forms its causes. The cause concept is a product of reason; not of "pure" reason, but of reason married to the world of sense perceptions.

If Kant maintains that the statement: "Every change has its cause" is an *a priori truth* which we cannot experience because no one can possibly experience all changes, although every one has the irrefutable feeling of the correctness of this statement, we know now that this statement expresses merely the experience that the phenomenon which we call reason recognizes the uniform element in all multiformity. Or in other words, we now know that the development of the general element out of the concrete facts is called reason, thought, or mind. The secure knowledge that every change has its cause is nothing else but the conviction that we are thinking human beings. *Cogito, ergo sum*. I think, therefore I am. We have experienced the nature of our reason instinctively even if we have not analyzed it scientifically. We are as well aware of the faculty of our reason to abstract a cause out of every given change, as we are that every circle is round, that a is equal to a . We know that the general is the product of reason, and reason produces this general thing in contact with every given object. And since all objects before and after a certain other object are temporal changes, it follows that all changes which we as thinking beings experience must have a general antecedent, a cause,

Already the English sceptic Hume felt that true causes are different from assumed causes. According to him the concept of a cause contains nothing but the experience of that which generally precedes a certain phenomenon. Kant rightfully remarks on the other hand that the conception of cause and effect expresses a far more intimate relation than that indicated by a loose and accidental succession, and that the concept of a cause rather comprises that of a certain effect as a necessity and strict general result. Therefore he claimed that there must be something *a priori* in reason which cannot be experienced and which extends beyond experience.

We reply to the materialists who deny all autonomy of the mind and hope to detect causes by experience alone that the general necessity which presupposes the relation of cause and effect represents an impossible experience. And we reply to the idealists: Although reason explores causes which cannot be experienced, this research cannot take place *a priori*, but only *a posteriori*, only on the basis of empirically given effects. It is true that the mind alone discovers the imperceptible and abstract generality, but it does so only within the circle of certain given sense perceptions.

(b) Matter and Mind.

The understanding of the general dependence of the faculty of thought on material sense perceptions will restore to objective reality that right which has long been denied to it by ideas and opinions. Nature with its varied concrete phenomena which had been crowded out of human considerations by philosophi-

cal and religious imaginings, and which has been scientifically re-established again on special fields by the development of natural sciences, gains general theoretical recognition by the understanding of the functions of the brain. Hitherto natural science has chosen for its object only special matters, special causes, special forces, but has remained ignorant in general questions of so-called natural philosophy regarding the cause of all things, of matter, of force in general. The actual existence of this ignorance is revealed by that great contradiction between idealism and materialism which pervades all works of science like a red thread.

"May I succeed in this letter in strengthening the conviction that chemistry as an independent science represents one of the most powerful means for the higher cultivation of the mind, that its study is useful not alone for the promotion of the material interests of mankind, but because it permits a deeper penetration of the wonders of creation, with which our existence, our welfare, and our development are intimately connected."

In these words Liebig expresses the prevalent views which have accustomed themselves to look upon material and spiritual differences as absolute opposites. But the untenability of such a distinction is vaguely felt even by the just quoted advocate of this view, who speaks of material interests and of a mental penetration which is the condition for our existence, welfare, and development. But what else does the term material interests mean but the abstract expression of our existence, welfare, and development? Are not these the concrete content of our material interests?

Does he not say explicitly that the penetration of the wonders of creation promotes our material interests? And on the other hand, does not the promotion of our material interests require a penetration on our part of the wonders of creation? In what respect are our material interests different from our mental penetration of things?

The superior, spiritual, ideal, which Liebig in conformity with the views of the world of naturalists opposes to our material interests, is only a special part of those interests. Mental penetration and material interests differ no more than the circle differs from the square. Circles and squares are contrasts, but at the same time they are but different and special classes of form in general.

It has been the custom, especially since the advent of Christian times, to speak contemptuously of material, perceptible, fleshly things which are destroyed by rust and moths. And nowadays people continue on this conservative track, although their antipathy against perceptible reality has long disappeared from their minds and actions. The Christian separation of mind and body has been practically abandoned in the age of natural science. But the theoretical solution of the contradiction, the demonstration that the spiritual is material and the material at the same time spiritual, by which the material interests would be freed from the stigma of inferiority, has not yet been forthcoming.

Modern science is natural science. Science is deemed worthy of its name only in so far as it is natural science. In other words, only that thought is scientific which consciously has real, perceptible, nat-

ural things for its object. For this reason representatives and friends of science can not be enemies of nature or of matter. Indeed they are not. But the very existence of science shows that this nature, this world of sense perceptions, this matter or substance, does alone and by itself not satisfy us. Science, or thought, which has material practice or being for its object, does not strive to reproduce nature in its integrity, in its entire perceptible substance, for these are already present. If science were to aim at nothing new, it would be superfluous. It is entitled to special recognition only to the extent that it carries a new element into matter. Science is not so much concerned in the material of its study as in understanding. Of course it is the understanding of this material which is desired, the understanding of its general character, of the fixed pole in the succession of phenomena. That which religion supernaturally separates from the material, which science opposes to the material as something higher, diviner, more spiritual, is in reality nothing but the faculty of rising above multiformity, of proceeding from the concrete to the general.

The nobler spiritual interests are not absolutely different from the material interests, they are not qualitatively different. The positive side of modern idealism does not consist in belittling eating and drinking, the pleasure in earthly possessions and in intercourse with the other sex, but rather in pleading for the recognition of other material enjoyments besides these, as for instance those of the eye, the ear, of art and science, in short of the whole man. You shall not indulge in the material revelries of passion, that is to say you shall not direct your thought one-sidedly

to any concrete lust, but rather consider your entire development, take into account the total general extension of your existence. The bare materialist principle is inadequate in that it does not appreciate the difference between the concrete and the general, because it makes the individual synonymous with the general. It refuses to recognize the quantitative superiority of the mind over the world of sense perceptions. Idealism, on the other hand, forgets the qualitative unity in the quantitative difference. It is transcendental and makes an absolute difference out of the relative one. The contradiction between these two camps is due to the misunderstood relation of our reason to its given object or material. The idealist regards reason alone as the source of all understanding, while the materialist looks upon the world of sense perceptions in the same way. Nothing is required for a solution of this contradiction but the comprehension of the relative interdependence of these two sources of understanding. Idealism sees only the difference, materialism sees only the uniformity of matter and mind, content and form, force and substance, sense perception and moral interpretation. But all these distinctions belong to the one common genus which constitutes the distinction between the special and the general.

Consistent materialists act like purely practical men without any science. But, since knowing and thinking are real attributes of man regardless of his party affiliation, purely practical men do not exist in reality. Even the merest attempt at practical experiment on the basis of experienced facts differs only in degree from scientific practice based on theoretical principles. On

the other hand, consistent idealists are just as impossible as purely practical men. They would like to have the general without the special, the spirit without matter, force without substance, science without experience or material, the absolute without the relative. How can thinkers who search for truth, being, relative causes, such as naturalists, be idealists? They are so only outside of their specialties, never inside of them. The modern mind, the mind of natural science, is immaterial only so far as it embraces all matters. But men like the astronomer Madler find so little of the ridiculous in the current expectation of the materially increased spiritual power after our "emancipation from the bonds of matter," that he has nothing better to substitute for it and flatters himself with having defined the "bonds of matter" as material attraction. Truly, so long as mind is still conceived in the form of a religious ghost, the expectation of an increased mental power after the emancipation from the bonds of matter is not so much an object for ridicule as for compassion. But if we regard mind as the expression of modern science, we offer the better scientific explanation for the traditional faith. By bonds of matter we do not mean, in that case, the bond of gravitation, but the multiplicity of sense perceptions. And matter holds the mind in bondage only so long as the faculty of thought has not overcome the multiplicity of things. The emancipation of the mind from the bonds of matter consists in developing the general element out of the concrete multiplicity.

(c) Force and Matter.

The reader who has closely followed our main idea,

which will be further illustrated, will anticipate that the question of matter and force finds its solution in the understanding of the relation between the general and the special. What is the relation of the concrete to the abstract? This is the common problem of those who see the active impulse of the world either in the spiritual force or in the material substance, who think to find the nature of things, the *non plus ultra* of science, in either of these facts.

Liebig, who is especially fond of straying from his inductive science into the field of speculative thought, says in an idealist sense: "Force cannot be seen, we cannot grasp it with our hands; in order to understand its nature and peculiarities, we must investigate its effects." And if a materialist replies to him: "Matter is force, force is matter, no matter without force, no force without matter," it is plain that either has determined this relation only negatively. In certain shows, the clown is asked by the manager: "Clown, where have you been?" "With the others," answers the clown. "And where were the others?"—"With me."

In this case we have two answers with the same content, in the other we have two camps which quarrel with different words about an indisputable fact. And this dispute is so much more ridiculous because it is taken so seriously. If the idealist makes a distinction between matter and force, he does not mean to deny that the real phenomenon of force is inseparably linked with matter. And if the materialist claims that there is no matter without force and no force without matter, he does not mean to deny that matter and force are different, as his opponent claims.

The dispute exists for a good reason and has its object, but this object is not revealed in the dispute. It is instinctively kept under cover by both parties, so that they may not be in a position where they would have to acknowledge their own ignorance. Each wants to prove to the other that the other's explanations are inadequate, and both demonstrate this sufficiently. Büchner admits in the closing statements of his "Matter and Force" that the empirical material is insufficient to permit of definite answers to transcendental questions, and that therefore no positive answer can be given to them. And he furthermore says that the empirical material "is fully sufficient to answer them negatively and to do away with hypothesis." This is saying in so many words that the science of the materialist is adequate for the proof that his opponent knows nothing.

The spiritualist or idealist believes in a spiritual, which means in a ghostlike and inexplicable, nature of force. The materialist thinkers, on the other hand, are skeptical. A scientific proof of faith or of skepticism does not exist. The materialist has only this advantage over his idealist opponent, that he looks for the transcendental, the nature, the cause, the force, not back of the phenomenon, not outside of matter. But he remains behind the idealist when he ignores the difference between matter and force. The materialist dwells on the actual inseparability of matter and force and does not admit any other reason for a distinction between the two than "an external reason derived from the demand of our mind for systematization." Büchner says in "Nature and Mind," page 66: "Force and matter, separated from one another, are for me

nothing but thoughts, fantasies, ideas without any substance, hypotheses which do not exist for any healthy study of nature, because all phenomena of nature are rendered obscure and unintelligible by such a separation." But if Büchner deals with any special department of natural science in a productive way, instead of handling phrases of natural philosophy, his own practice will show him that the separation of forces from matter is not an "external," but an internal, an imminent necessity, by which alone we are enabled to elucidate and understand the phenomena of nature. Although the author of "Force and Matter" chose for his motto: "Now, what I want is—facts," we assure the reader that this device is more a thoughtless word than a serious opinion. Materialism is not so coarse-grained that it wants purely facts. Those facts which Büchner is looking for are by themselves not specifics for his desires. The idealist likewise wants such facts. No student of nature wants mere hypotheses. What all cultivators of the field of science want is not so much facts as explanations or an understanding of facts. Even the materialist will not deny that science, the "natural philosophy" of Büchner not excepted, is more concerned with mental forces than with bodily matter, that it cares more for force than for matter. The separation of force and matter is derived from "the demand of our mind for systematization." Very true! But so does all science emanate from the demand of our reason for systematization.

The contradistinction between force and matter is as old as that between idealism and materialism. The first conciliation between the two was attempted by

imagination which, through the belief in spirits, suggested a secret nature as the cause of all natural phenomena. Science has of late expelled many of these special spirits by replacing the fantastic demons with scientific, or general, explanations. And after we have succeeded in explaining the demon of "pure" reason, it is not difficult to expel the special spirit of force by the general explanation of its nature and thus to reconcile scientifically the contradiction between spiritualism and materialism.

In the universe which constitutes the object of science and of the faculty of reason, both force and matter are unseparated. In the world of sense perceptions force is matter and matter is force. "Force cannot be seen." Oh, yes! Seeing itself is pure force. Seeing is as much an effect of its object as an effect of the eye, and this double effect and other effects are forces. We do not see the things themselves, but their effects on our eyes. We see their forces. And force cannot alone be seen, it can also be heard, smelled, tasted, felt. Who will deny that he can feel the force of heat, of cold, of gravitation? We have already quoted the words of Professor Koppe to the effect that we "cannot perceive heat itself, we merely conclude from its effects that this force exists in nature." This is saying in other words that we do not see, hear, or feel the things themselves, but their effects or forces.

It is just as true to say that we feel matter and not its force as it is to say that we feel force and not matter. Indeed, both are inseparable from the object, as we have already remarked. But by means of the faculty of thought we separate from the simultane-

ously and successively occurring phenomena the general and the concrete. For instance, we abstract the general concept of sight from the various phenomena of our sight and distinguish it by the name of power of vision from the concrete objects, or substances, of our eyes. From a multitude of sense perceptions we develop by means of reason the general element. The general element of different water phenomena, for instance, is the water power distinguished from the substance of the water. If levers of different materials but of the same length have the same power, it is plain that in this case force is different from matter only in so far as it represents the general element of various substances. A horse does not pull without force, and this force does not pull without the horse. Indeed, in practice the horse is force and force is the horse. But nevertheless we may distinguish the power of pulling from other qualities of the horse, or we may refer to the common element in different services of horses as general horse power, without thereby starting from any other hypothesis than we do in distinguishing the sun from the earth. For in reality the sun does not exist without the earth, nor the earth without the sun.

The world of sense perceptions is made known to us only by our consciousness, but consciousness is conditioned on the world of sense perceptions. Nature is infinitely united or infinitely separated, according to whether we regard it from the standpoint of consciousness as an unconditional unit or from the standpoint of sense perceptions as an unconditional multiplicity. There is truth in both unity and multiplicity, but it is truth only relatively speaking, under certain conditions. It matters a great deal whether we look

about with the eyes of the body or with the eyes of the mind. For the eyes of the mind, matter is force. For the eyes of the body, force is matter. The abstract matter is force, the concrete force is matter. Matter is represented by the objects of the hand, of practice, while force is an object of understanding, of science.

Science is not limited to the so-called scientific world. It reaches beyond all classes, it belongs to the full depth and width of life. Science belongs to thinking humanity in its entirety. And so it is with the separation of matter and force. Only a stultified fanaticism can ignore the practical distinction. The miser who accumulates money without adding any wealth to his life process forgets that the valuable element of money resides in its force, which is different from its substance. He forgets that not mere wealth as such, not the paltry gold substance, lends a reasonableness to the quest for its possession, but its spiritual content, its inherent exchange value, which buys the necessities of life. Every scientific practice, which means every action carried on with a predetermined success and with understood substances, proves that the separation of matter and force, though only performed in thought and existing in thought, is nevertheless not an empty phrase, not a mere hypothesis, but a very fertile idea. A farmer manuring his field is handling "pure" manuring force, in so far as it is immaterial for the abstract conception whether he is handling cow dung, bone dust, or guano. And in weighing bundles of merchandise, it is not the iron, copper, stone, etc., which is handled by the pound, but their gravity.

True, there is no force without matter, no matter without force. Forceless matter and matterless force

are nonentities. If idealist naturalists believe in an immaterial existence of forces which, so to say, carry on their goblin-pranks in matter, forces which we cannot see, cannot perceive by the senses and yet are asked to believe in, then we say that such men are to that extent that naturists, but mere speculators, in other words spiritualists. And the word of the materialists who refer to the intellectual separation of matter and force as a mere hypothesis, is quite as brainless.

In order that this separation may be appreciated according to its merits, in order that our consciousness may neither etherealize force in a spiritualist sense nor deny it in a materialist sense, and in order to comprehend it scientifically, we have only to understand the faculty of thought in general or "in itself," that is to say its abstract form. The intellect can not operate without some perceptible material. In order to distinguish between matter and force, these things must exist and be experienced by sense perception. By means of this experience we refer to matter as the expression of force and to force as the expression of matter. The perceptible object which is to be studied is therefore matter and force in one, and since all objects are in their tangible reality such matter and force things, the distinction made by the mind consists in the general method of brain work, in the derivation of the general unity, from the special multiplicity in any one and in all given objects. The distinction between matter and force is summarized in the universal distinction between the concrete and the abstract. To deny the value of this distinction is equivalent to denying the value of any and all distinction, equivalent to ignoring the function of the intellect altogether.

If we refer to phenomena of sense perception as forces of matter in general, then this generalized matter is nothing but an abstract conception. But if we mean by the term sense perception the various concrete substances, then the general element which embraces the differences of things and pervades and controls them is force producing concrete effects. And whether we say matter or force, the mental which science is studying, not with its hands, but with its brain, the so-called essence, nature, cause, ideal, superior or spiritual, is the generality comprising the special things.

V.

"PRACTICAL REASON" OR MORALITY

(a) The Wise and Reasonable.

The understanding of the method of science, the understanding of the mind, is destined to solve all the problems of religion and philosophy, to explain thoroughly all the great and small riddles, and thus fully to restore research to its mission of empirically studying details. If we are aware that it is a law of reason to require some perceptible material, some cause, for its operation, then the question regarding the first or general cause becomes superfluous. Human understanding is then seen to be first and last cause of all concrete causes. If we understand that it is a law of reason to require for its operation some given object, some beginning at which to start, then the question of the first beginning must necessarily become inane. If we understand that reason derives abstract units out of concrete multiplicities, that it constructs truth out of phenomena, substance out of attributes, that it perceives all things as parts of a whole, as individuals of some genus, as qualities of some object, then the question regarding a "thing itself," a something which in reality is back of all things, must needs become irrelevant. In brief, the understanding of the interdependence of reason reveals the unreasonableness of the demand for independent reason.

Now, although the main object of metaphysics, the cause of all causes, the beginning of all beginnings, the nature of things, causes little inconvenience to modern science, and even though the needs of the present have overcome the leaning for speculation, this practical downfall of speculation does not suffice for the solution of its problems. So long as the theoretical law is not understood, according to which reason requires some concrete object for its operation, there is no hope of abandoning objectless thought, this malpractice of speculative philosophy, which pretends to generate knowledge without intercourse with objective reality. Our naturalists demonstrate this very clearly as soon as they turn from their tangible specialties to abstract things. The dispute over questions of life's wisdom, of morality, or the quarrel over the wise, good, right, or bad, reveals that here is the boundary of scientific agreement. The scientific explorers of the exact sciences abandon every day their inductive method when dealing with social problems, and stray off into the regions of speculative philosophy. Just as in physics they believe in imperceptible physical truths, in "things themselves," so in social matters they believe in the reasonable, wise, right, or bad, in the sense of "things themselves," of absolute phases of life, of unconditional conditions. It is here where the outcome of our studies, of the critique of pure reason, must be applied.

In recognizing that consciousness, the nature of understanding, the mental activity in its general form, consists in developing general concepts out of concrete objects, we circumscribe this insight by stating that reason develops its understanding out of contra-

dictions. It is the nature of the mind to perceive, in given phenomena of different dimensions and different duration, the nature of things by their semblance, and their semblance by their nature; to distinguish in wants of various degrees the most essential and necessary from the less pressing; to measure within a certain circle of magnitudes the large by the small and the small by the large, or in other words to compare the contrasts of the world with one another, to harmonize them by explanation. Common parlance instinctively calls understanding judging; judging requires a certain standard. Just as surely as we cannot perceive any objects which are "in themselves" great or small, hard or soft, clear or dark, just as surely as these terms denote certain relations and require a certain standard by which their relations can be determined, even so does reason require a certain standard for the determination of that which is reasonable.

The fact that we consider certain actions, institutions, conceptions, maxims of other periods, nations, or persons unreasonable is simply due to the application of a different standard, because we ignore the premises, the conditions, which cause another's reason to differ from our own. Men who differ in their mental estimates, in their understanding of things, may be likened to the thermometers of Reaumur and Celsius, one of which designates the boiling point by 80 and the other by 100. A different standard is the cause of this different result. On the so-called moral field there is no scientific agreement, such as we enjoy in some physical matters, because we lack the uniform standard which natural science has long since found. It is still attempted to perceive the reasonable, good,

right, etc., without empirical data, by speculative reasoning without experience. Speculation seeks the cause of all causes, the immeasurable cause; truth "itself," the unconditional and standardless truth; the unlimited good, the unboundedly reasonable, etc. The absence of a standard is the essence of speculation, and its practice is characterized by unlimited inconsistency and disagreement. If there are followers of certain positive religions who agree in the matter of morals, they owe this to the positive standard which certain dogmas, doctrines and commandments have given them. But if any one tries to perceive things by "pure" reason, the dependence of this reason on some standard will be demonstrated by its "impure," that is to say individual, perceptions.

Sense perception is the standard of truth, or of science in general. The phenomena of the outside world are the standard of physical truths, and man with his many wants is the standard of moral truth. The actions of man are determined by his wants. Thirst teaches him to drink, need to pray. Wants are regulated in the South by southern conditions, in the North by northern conditions. Wants rule time and space, nations and individuals. They induce the savage to hunt and the gourmand to indulge. Human wants give to reason a standard for judging what is good, right, bad, reasonable, etc. Whatever satisfies our need is good, the opposite is bad. The physical feeling of man is the object of moral standards, the object of "practical reason." The contradictory variety of human needs is the basis for the contradictory variety of moral standards. Because a member of a feudal guild prospered in a restricted competition,

and a modern knight of industry in free competition, because their interests differ, therefore their views differ, and the one justly considers an institution as unreasonable which the other regards as reasonable. If the intellect of some person attempts to define by mere introspection the standard of reasonableness as a general thing, this person makes himself or herself the standard of humanity. If reason is credited with the faculty of finding within itself the source of moral truth, it commits the speculative mistake of attempting to produce understanding without perceptible objects. The same mistake is to blame for the idea that man is subordinate to the authority of reason, for the demand that man submit to the dictates of reason. This idea transforms man into an attribute of reason, while in reality reason is an attribute of man.

The question whether man depends on reason or reason on man is similar to the one whether the citizen exists for the state or the state for the citizen. In the last and highest instance, the citizen is the primary fact and the state is modified according to the requirements of the citizen. But whenever the dominant interests of the citizenship have acquired the authority in the state, then the citizen is indeed dependent on the state. This is saying in so many words that man is guided in minor matters by more important ones. He sacrifices the less important, minor, particular things to the great, essential, general things. He subordinates his desire for more individual indulgence to his fundamental social needs. It is not pure reason, but the reason of a weak body or of a limited purse which teaches man to renounce the

pleasures of dissipation for the benefit of the general welfare. The wants of the senses are the material out of which reason fashions moral truths. To single out the essential need among different physical needs of various degrees of intensity or extension, to separate the true from the individual, to develop general concepts, that is the mission of reason. The difference between the apparently and the truly reasonable reduces itself to the difference between the special and the general.

We recall that reason requires sense perceptions for its existence and operation, that it needs some object which it can perceive. Existence is the condition or premise of all understanding. Just as the understanding of true existence is the function of natural science, so the understanding of reasonable existence is the function of wisdom. Reason in general has the mission of understanding things as they are. As physical science it has to understand what is true, as wisdom, what is reasonable. And just as true may be translated by general, so reasonable may be translated by generally appropriate to need. We saw a while ago that a sense perception is not true "in itself," but only relatively true, that it is called true or general only in relation to other perceptions of lesser importance. In the same way, no human action can be reasonable or appropriate "in itself," it can be reasonable only in comparison with some other action which attempts to accomplish the same purpose in a less practicable, that is an impracticable, form. Just as the true, the general, is conditioned on the relation to some other object, on a definite quantity of phenomena, on definite limits, so the reasonable or practicable

is based on definite conditions which make it reasonable or unreasonable. The end in view is the measure of the practicable. The practicable can be determined only by some definite object that is wanted. Once this object is known, then that action is called reasonable which accomplishes it in the fullest, most general way, and all other actions appear unreasonable compared to it.

In view of the law which we evolved by our analysis of pure reason and which showed that all understanding, all thought, is based on some perceptible object, on some quantity of sense perceptions, it is evident that everything distinguished by our faculty of distinction is a certain quantity and that, therefore, all distinctions are only quantitative, not absolute, only graduated, not irreconcilable. Even the difference between the reasonable and the unreasonable, or in other words between that which is momentarily or individually reasonable and that which is generally reasonable, is merely a quantitative distinction, like all others, so that the unreasonable may be conditionally reasonable, and nothing is unreasonable but that which is supposed to be unconditionally reasonable.

If we understand that reason requires some perceptible object, some perceptible standard, then we shall no longer try to understand the absolutely reasonable, the purely reasonable. We shall then limit ourselves to look for the reasonable, as for all other things, in concrete objects. The definite, accurate, certain, uniform result of some understanding depends on the definite formulation of the task, on the accurate limitation of the perceptible quantity which is to be un-

derstood. If a certain moment, a certain person, a certain class, a certain nation are given and at the same time an essential need, a general and predominating purpose, then the question regarding the reasonable or suitable is easily answered. It is true that we may also know something of things which are generally reasonable for mankind in the aggregate, but in that case our standard must be abstract mankind instead of some concrete part of it. Science may study the anatomical structure of some concrete body as well as the general type of the human body, but this again it can do only when it supplies the faculty of understanding with general instead of individual material. If science divides the whole human race into four or five races, by establishing a certain standard of physiognomy, and later on discovers some individuals or tribes whose characters are so peculiar and rare that they cannot be classed under any of the established races, the existence of such exceptions is not a crime against the physical order of the world, but merely a proof of the inadequacy of our scientific classification. If, on the other hand, some conventional mode of thought considers a certain action as universally reasonable or unreasonable and then encounters opposition in actual life, convention fancies itself exempt from the work of understanding and assumes to deny civic rights in the moral order of the world to its opponents. Instead of realizing the limited applicability of its rules by the existence of opposing practices, convention seeks to establish an absolute applicability of its rules by simply ignoring the cause of the opposition. This is a dogmatic procedure, a negative practice, which ignores facts on the

pretense that they are irrational, but it is not a positive understanding, not an intelligent knowledge, such as manifests itself by the conciliation of contradictions.

If our study aims to ascertain what is universally human and reasonable, and if these predicates are given only to actions which are reasonable and practicable for all men, at all times, and under all conditions, then such concepts are absolute, indeterminate, and to that extent meaningless, indefinite generalities. We are stating such universal and indeterminate, and therefore unimportant and unpractical concepts, when we say that physically the whole is greater than a part, or that morally the good is preferable to the bad. The object of reason is that which is general, but it is the generality of some concrete object. The practice of reason deals with individual and concrete objects, with the things which are the opposite of the general, with special and concrete knowledge. In order to perceive in physics whether we are dealing with a part or with the whole object, we must handle definite and concrete objects or phenomena. If we desire to ascertain what is morally preferable as good or bad, we must start out with a definite quantity of human needs. Abstract and general reason, with its so-called eternal and absolute truths, is a phantasmagoria of ignorance which binds the rights of the individual with crushing chains. Real and true reason is individual, it cannot produce any other but individual perceptions, and these perceptions cannot be generalized to any greater extent than the general material with which they operate. Only that is universally reasonable which is acknowledged to be so by all

reasons. If the reason of some time, class, or person is referred to as rational, and if some other time, class or person considers it irrational; if, for instance, the Russian noble considers serfdom a rational institution and the English bourgeois the so-called liberty of his wage worker, both of these institutions are not absolutely rational, but only relatively, only in a more or less limited circle.

It is not necessary to state that I do not mean to question the great importance of our reason by the foregoing remarks. Even though reason cannot independently, or absolutely, discern the objects of the speculative introspection, such as the objects of the moral world, the true, the beautiful, the right, the bad, the reasonable, etc.,* it nevertheless is well fitted to distinguish relatively, by means of concrete sense perceptions, between general and concrete things, between the object and its manifestation, between fundamental needs and fanciful appetites. Although we may dispense with the belief in absolute reason and consequently realize that there can be no absolute peace, still we may call war an unmitigated evil when comparing it with the peaceful interests of our time or of our class. Not until we abandon our fruitless exploring trip after absolute truth, shall we learn to find that which is true in space and time. It is precisely the consciousness of the relative applicability of our knowledge which is the strongest lever of progress. The believers in absolute truth have adopted the monotonous diagram of "good" men and "rational" institutions as a basis for their views of life. For this reason they oppose all human and historical institutions which do not fit into their pattern, but

which reality nevertheless produces without regard to their brains. Absolute truth is the arch foundation of intolerance. On the other hand tolerance proceeds from the consciousness of the relative applicability of "eternal truths." The understanding of pure reason leads to the realization that the consciousness of the universal interdependence of reason is the true road toward practical reason.

(b) Morality and Right.

The nature of our task limits us to the demonstration that pure reason is a nonentity, that reason is the sum of all acts of individual understanding, that it deals only seemingly with pure and general, but in reality with practical, or concrete, perceptions. We have been discussing that philosophy which pretends to be the science of pure or absolute understanding. We found its aim to be idle, inasmuch as the development of speculative philosophy represents a succession of disappointments, because its unconditional or absolute systems proved to be limited in space and time. Our presentation of the matter has revealed the relative character of so-called eternal truths. We perceived that reason was dependent on sense perceptions, we found that any truth required definite limits for its determination. As regards more especially life's wisdom, we saw that the acquired knowledge of "pure" reason manifested itself in practice by the dependence of the wise or the rational upon concrete sense perceptions. If we now apply this theory to morality as such, we must be able to establish harmony also in this field, where there is some doubt as

to what is right and wrong, by means of the scientific method.

Pagan morality is different from Christian morality. Feudal morality differs from modern bourgeois morality as does bravery from solvency. In brief, we need no detailed illustration to show that different times and nations have different moralities. We have but to understand that this change is necessary, a special characteristic of the human race and of its historical development, and we shall then exchange the belief in "eternal truths," which every ruling class claims to be identical with its own selfish laws, for the scientific knowledge that absolute right is purely a concept which we derive by means of the faculty of thought from the various successive rights. Right as an absolute concept means no more and no less than any other general concept, for instance, the head in general. Every real head is a concrete one and belongs either to man or to some other animal, it is either long or broad, narrow or wide, in other words it has special peculiarities. But at the same time, every concrete head has certain general qualities which are universal in all heads, for instance the quality of being the superintendent of the body. Moreover, every head has as many general as individual traits, it is no more personal than it is common. The faculty of thought abstracts the general traits from the actual concrete heads and in this way creates the concept of the absolute head. Just as the absolute head, or *the* head, is composed of the general qualities of all heads, so the absolute right stands merely for the general characters of all rights. Both of these concepts exist merely as ideas, not as objects.

Every real right is a concrete right, it is right only under certain conditions, at definite periods, for this or that nation. "Thou shalt not kill," is right in peace, but wrong in war; it is right for the majority of bourgeois society that wishes to see the outbursts of passion controlled in the interest of its own predominant needs, but wrong for the savage who has not arrived at the period where a peaceful and social life is appreciated, and who therefore would consider the above commandment as an immoral restriction of his liberty. For the love of life, murder is a detestable abomination, for revenge it is a sweet satisfaction. In the same way robbery seems right to the robber, wrong to the robbed. There can be no question of any absolute wrong in such cases, only of wrong in a relative sense. An action is wrong in a general sense only in so far as it is generally disliked. Plain robbery is wrong in the opinion of the great majority today because our generation takes more interest in bourgeois affairs of commerce and industry than in the adventures of the knights of the road.

If there were such a thing as an absolutely right law, dogma, or action, it would have to serve the welfare of all mankind under all conditions and at all times. But human welfare is as different as men, circumstances, and time. What is good for me is bad for another, and the thing which may be beneficial as a rule may be injurious as an exception. What promotes some interests in one period may interfere with them in another. A law which would presume to be absolutely right would have to be right for every one and at all times. No absolute morality, no duty, no categorical imperative, no idea of *the* good, can teach

man what is good, bad, right, or wrong. That is good which corresponds to our needs, that is bad which is contrary to them. But is there anything which is absolutely good? Everything and nothing. It is not the straight timber which is good, nor the crooked. Neither is good, or either is good, according to whether I need it or not. And since we need all things, we can see some good in all of them. We are not limited to any one thing. We are unlimited, universal, and need everything. Our interests are therefore innumerable, inexpressibly great, and therefore every law is inadequate, because it always considers only some special welfare, some special interest. And for this reason no right is right, or all of them are right, and it is as right to say "Thou shalt not kill" as it is to say "Thou shalt kill."

The difference between good needs and bad needs, right wants and wrong wants, like that between truth and error, reasonable and unreasonable, finds its conciliation in the difference between the concrete and the general. Reason cannot discover within itself any positive rights or absolutely moral codes any more than any other speculative truth. It cannot estimate how essential or unessential a thing is, or classify the quantity of concrete and general characters, until it has some perceptible material to work upon. The understanding of the right, or of the moral, like all understanding, strives to single out the general characteristics of its object. But the general is only possible within certain defined limits, it exists only as the general qualities of some concrete and determined perceptible object. And if any one tries to represent some maxim, some law, some right in the light of an

absolute maxim, law or right, he forgets this necessary limitation. Absolute right is merely a meaningless concept, and it does not assume even a vague meaning until it is understood to stand for the right of mankind in general. But morality, or the determination of that which is right, has a practical purpose. Yet, if we accept the general and unconditional right of mankind as a moral right, we necessarily miss our practical aim. An act or a line of action which is universally or everywhere right requires no law for its enforcement, for it will recommend itself. It is only the determined and limited law, adapted to certain persons, classes, nations, times, or circumstances, which has any practical value, and it is so much more practical the more defined, exact, precise and the less general it is.

The most universal and most widely recognized right or need is in its quality no more rightful, better, or valuable than the most insignificant right of the moment, than the momentary need of some individual. Although we know that the sun is hundreds of thousands of miles in diameter, we are nevertheless free to see it no larger than a plate. And though we may acknowledge that some moral law is theoretically or universally good or holy, we are free in practice to reject it momentarily, in parts, or individually, as bad and useless. Even the most sacred right of the most universal extent is valid only within certain definite limits, and within particular limits an otherwise very great wrong may be a valid right. It is true that there is an eternal difference between assumed and true interests, between passion and reason, between essential, predominating, general, well-founded needs

and inclinations, and accidental, subordinate, special appetites. But this difference is not one of two separated worlds, a world of the good and a world of the bad. It is not a positive, general, continuous, absolute difference, but merely a relative one. Like the difference between beautiful and homely, it depends on the individuality of the person who distinguishes. That which is a true and fundamental need in one case, is a secondary, subordinate, and wrong desire in another.

Morality is the aggregate of the most contradictory ethical laws which serve the common purpose of regulating the conduct of man toward himself and others in such a way that the future is considered as well as the present, the one as well as the other, the individual as well as the genus. The individual man finds himself lacking, inadequate, limited in many ways. He requires for his complement other people, society, and must therefore live and let live. The mutual concessions which arise out of these relative needs are called morality.

The inadequacy of the single individual, the need of association, is the basis and cause of man's consideration for his neighbor, of morality. Now since the one who feels this need, man, is necessarily an individual, it follows that his need must likewise be individual and more or less intensive. And since my neighbors are necessarily different from me, it requires different considerations to meet their needs. Concrete man needs a concrete morality. Just as abstract and meaningless as the concept of mankind in general is that of absolute morality, and the ethical laws derived from this vague idea are quite as unpractical and unsuccessful. Man is a living personality, whose welfare

and purpose is embodied within himself, who has between himself and the world nothing but his needs as a mediator, who owes no allegiance to any law whatever from the moment that it contravenes his needs. The moral duty of an individual never exceeds his interests. The only thing which exceeds those interests is the *material power* of the generality over the individuality.

If we regard it as the function of reason to ascertain that which is morally right, a uniform scientific result may be produced if we agree at the outset on the persons, conditions, or limits within which the universal moral right is to be determined; in other words, we may accomplish something practical if we drop the idea of absolute right and search for definite rights applicable to well-defined purposes by clearly stating our problem. The contradiction in the various standards of morality, and the many opposing solutions of this contradiction, are due to a misunderstanding of the problem. To look for right without a given quantity of sense perceptions, without some definite working material, is an act of speculative reason which pretends to explore nature without the use of senses. The attempt to arrive at a positive determination of morality by pure perception and pure reason is a manifestation of the philosophical faith in understanding *a priori*.

"It is true," said Macaulay in his History of England, in speaking of the rebellion against the lawless and cruel government of James II., "that to trace the exact boundary between rightful and wrongful resistance is impossible; but this impossibility arises from the nature of right and wrong, and is found in

every part of ethical science. A good action is not distinguished from a bad action by marks so plain as those which distinguish a hexagon from a square. There is a frontier where virtue and vice fade into each other. Who has ever been able to define the exact boundary between courage and rashness, between prudence and cowardice, between frugality and avarice, between liberality and prodigality? Who has ever been able to say how far mercy to offenders ought to be carried, and where it ceases to deserve the name of mercy and becomes a pernicious weakness?"

It is not the impossibility of accurately determining this limit to which the nature of the difference between right and wrong, in the sense of Macaulay, is due. It is rather due to the vague thought which believes in an unlimited right, in absolute virtues and faults, which has not risen to the understanding that the terms good, brave, right, and bad are valid always and everywhere only in relation to some concrete individual who reasons, and that they have no validity in themselves. Courage is foolhardiness in the eyes of the cautious, and caution is cowardice in the opinion of the daring. The revolt against existing governments is always right in the eyes of the rebels, always wrong in the opinion of the attacked. No action can be absolutely right or wrong

The same qualities of man are good or bad, according to his needs and their uses, according to time and place. Here trickery, slyness, and bad faith prevail, there loyalty, frankness and straightforwardness. Here compassion and charity serve their purpose and promote welfare, there ruthless and bloody severity. The quantity, the more or less beneficial effect of a human

quality, determines the difference between virtue and vice.

Reason can distinguish between right and wrong, virtue and vice, only to the extent that it can measure the relative quantity of right in any faculty, rule, or action. No categorical imperative, no ethical code, can serve as a basis for the real practical right. On the contrary, ethics finds its justification in the actual righteousness of perceptible objects. For general reason, frankness is not a better quality than slyness. Frankness is preferable to slyness only inasmuch as it is quantitatively, that is to say, more frequently, better, and more generally appreciated than slyness. It follows that a science of right can serve as a guide in practice only to the extent that practice has served as a basis for science. Reason cannot determine the action of man beforehand, because it can only experience, but not anticipate reality, because every man, every situation, is new, original, exists for the first time, and because the possibilities of reason are confined to understanding *a posteriori*.

Absolute right, or right in itself, is an imagined right, is a speculative desire.* A scientifically universal right requires certain definite and perceptible premises which form the basis of the determination of the general. Science is not a dogmatic infallibility which may say: This or that is right, because it is so understood. Science requires for its perceptions some external object. It can perceive right only if it rightly exists. The universal existence is the material, premise, condition, and cause of science.

From the foregoing follows the postulate that morality must be studied inductively or scientifically, not

speculatively by the method of traditional philosophy. We must not attempt to study absolute, but only relative rights, only rights based on certain premises, and only this can be the moral problem of reason. Thus the belief in a moral order of the world is dissolved in the consciousness of human freedom. The understanding of reason, of knowledge, of science, includes the understanding of the limited validity of all ethical maxims.

Whatever impressed man as salutary, valuable, divine, was exhibited by him in the tabernacle of faith as the most venerable thing. The Egyptian worshiped the cat, the Christian venerates the divine providence. So, when his needs led him to live a well-regulated life, the benefits of the law inspired him with such a high opinion of its noble origin that he adopted his own handiwork as a gift of heaven. The invention of the mouse-trap or other useful appliances pushed the cat out of its exalted position. Whenever man becomes his own master, takes care of himself, and provides for himself, then all other providences become useless, and his own mastership makes all superior tutelage unbearable. Man is a jealous creature. Ruthlessly he subordinates everything to his own interests, even God and His commandments. No matter how great or venerable an authority any code may have acquired by long and faithful service, as soon as new needs oppose it, they degrade the divine authority to the ranks of human law and transform ancient right into modern wrong. The Christian frivolity refused to respect the threat of physical retribution which the Hebrew had anointed as an authority in moral questions and revered

under the maxim: Eye for eye, tooth for tooth. The Christian had learned to cherish the blessings of peacefulness; he carried submissive tolerance into the holy land, and decorated the vacant tabernacle with the gentle injunction to offer the left cheek when the right was tired of cuffs. In our times which are Christian in name, but very anti-Christian in deeds, the long venerated tolerance has long gone out of use.

Just as every religion has its own peculiar God, so every time has its own peculiar right. To this extent, religion and morality are in harmony with the worship of their sanctum. But they become arrogant upstarts whenever they assume to exceed their natural boundaries, whenever they attempt to saddle upon all circumstances, under the pretense of offering something incomparable, absolute, permanent, that which is divine and right at certain times and under definite conditions; whenever they proclaim a successful remedy for their own peculiar disease as a universal patent medicine for all diseases; whenever they overbearingly forget their descent. A law is originally dictated by some individual need, and then mankind with its universal needs is supposed to balance itself on the thin rope of this one rule. Originally that which is really good is right, and thereafter only some decreed right is supposed to be really good. That is the unbearable arrogance. Ordained right is not satisfied to serve as the right of this time, this nation or country, this class or caste. It wants to dominate the whole world, wants to be absolute right, just as if a certain pill could be absolute medicine, could be good for everything. It is the mission of progress to repulse this assumption, to pluck this peacock feather

out of the tail of the rooster, by leading mankind on beyond the boundaries prescribed by ordained law, by extending the world for him, by conquering for his cramped interests a wider liberty. The migration from Palestine to Europe where the consumption of pork does not cause leprosy emancipates our natural freedom from a once divine restriction by making it irrelevant. But progress does not deprive one God of his shoulder straps for the purpose of decorating some other God with them. That would merely be an exchange, not an acquirement. Evolution does not drive the saints of tradition out of the country; it simply retires them from the wrongfully occupied field of universality into their peculiar boundaries. Progress picks up the child and then pours the water out of the bath tub. Though the cat may have lost its aureole and ceased to be a God, it does not give up catching mice; and though the Jewish rules for bodily cleanliness at certain definite times have long been forgotten, a clean body is still highly respected. The present wealth of civilization is due only to the economical administration of the acquirements of the past. Evolution is as much conservative as it is revolutionary, and it finds as much wrong as right in every law.

It is true that the believers in absolute duty scent a difference between moral and legal right. But their self-interested narrowness does not permit them to realize that every law is originally moral and that every special morality is gradually reduced to the level of a mere law. Their understanding reaches into other times and other classes, but does not reach their own time and class. The laws of the Chinese

and Samoyeds are understood to refer to the peculiar requirements of those people. But the rules of bourgeois society are supposed to be far more sublime. Our present day institutions and moral codes are either regarded as eternal truths of nature or reason, or as permanent oracular expressions of a pure conscience. Just as if the barbarian did not have a barbarian reason; as if the Turk did not have a Turkish conscience and the Hebrew a Hebrew one; as if man could follow the dictates of some absolute conscience, instead of the conscience being conditioned on the man.

Whoever limits the purpose of man to the love and service of God, and to eternal blessedness hereafter, may devoutly recognize the traditions of abstract morality as authoritative and guide himself accordingly. But whoever regards development, education, and blessedness on earth as man's life purpose, will not think that the questioning of the assumed superiority of traditional morals is irrelevant. It is only the consciousness of individual freedom which creates sufficient unconcern for the rules made by others to permit a brave advance, which emancipates us from the striving for an illusory absolute ideal, for some "best world," and which restores us to the definite practical interests of our time and personality. At the same time we are thus reconciled with the world as it really is, because we no longer regard it as the unsuccessful realization of that which ought to be, but rather as the systematization of that which cannot but be. The world is always right. Whatever exists, is right and is not fated to be otherwise until it changes. Wherever there is existence,

which is power, there is also right without any further condition, because it is right in a formative stage. Weakness has no other right than that of striving for supremacy and then enforcing a recognition of its long denied needs. The study of history shows us not only the negative and ridiculous side of the religions, customs, institutions and ideas of the past, but also their positive, reasonable and necessary side. It explains to us, for instance, that the deification of animals was due to an enthusiastic recognition of their usefulness. And so the study of history shows not alone the inadequacy of the things of the present, but also demonstrates that they are the reasonable and necessary conclusions from the premises of previous stages.

(c) The Holy.

In the well-known statement: The end sanctifies the means, the developed theory of morality finds its practical expression. This maxim, used in an ambiguous sense, may stand as a common reproach for us and for the Jesuits. The defenders of the society of Jesus make efforts to prove that it is a malignant attempt to discredit their clients. We shall not try to speak for either party to this dispute, but will devote ourselves to the subject matter itself, and seek to substantiate the truth and reasonableness of this maxim, to rehabilitate it in the public opinion.

It will be sufficient for the refutation of the most general opposition to understand that end and means are very relative terms, that all concrete ends are means and all means are ends. There is no more of a positive difference between great and small, right

and wrong, virtue and vice, than there is between end and means. Considered as something integral by itself, every action has its own end and its means are the various moments of which even the shortest action is composed. Every concrete action is a means in relation to other actions which aim at the same common effect. But in themselves actions are neither ends nor means. Nothing is anything by itself. All being is relative. Things are what they are only within and by their interrelations. Circumstances alter cases. In so far as every action is accompanied by other actions, it is a means, and serves a common end which exceeds its own special end; but inasmuch as every action is complete in itself it is an end which includes its own means. We eat in order to live; but so far as we are living while we are eating, we are living in order to eat. As life to its functions, so the end is related to its means. Just as life is simply the sum of all life's functions, so the end is the sum of all its means. The difference between means and end reduces itself to that between the concrete and the general. And all abstract differences reduce themselves to this difference, because the faculty of abstraction or distinction reduces itself to the faculty of distinguishing between the concrete and the general. But this distinction presupposes the existence of some material, some given objects, some circle of sense perceptions by which it manifests itself. If this circle is found in the field of actions or functions, in other words, if a previously defined number of different actions is the object of our study, then we refer to the general character of these objects as the general end and to every more or less extended part of them, or to

every function, as a means. Whether any definite action is considered as an end or as a means, depends on the question whether we consider it as a whole in relation to its own parts, or as a part of some whole in which it is connected with other parts, with other actions. From a general point of view which has all human actions for the object of its study, and encompasses them all, there exists only one end, viz., the human welfare. This welfare is the end of all ends, is the final end, is the real, true, universal end compared to which all special ends are but means.

Now, our claim that the end sanctifies the means can have absolute validity only in regard to some absolute end. But all concrete ends are relative and finite. The one and sole absolute end is human welfare, and it is an end which sanctifies all rules and actions, all means, so long as they are subservient to it, but which reviles them as soon as they go their own way without serving it. The human weal is literally and historically the origin of the holy. That which is hale is holy. At the same time we must not ignore the fact that the weal, or hale, in general, the hale which sanctifies all means, is but an abstraction, the real content of which is as different as are the times, the nations, or persons which are seeking for their welfare. It must be remembered that the determination of that which is holy or for the human weal requires definite conditions, that no action, no means, is holy in itself, that each one of them is sanctified only by definite relations. It is not every end which sanctifies the means, but the holy end which sanctifies its own means. But since every real and

concrete end is only relatively holy, it can sanctify its own means only relatively.

The opposition against our maxim is not so much directed against it, as against the wrong application of it. Recognition is denied and the so-called sanctified ends are accorded only limited means, because there is lurking in the background the consciousness that these ends have only a relative holiness. On the other hand our defense of the maxim does not imply that the various nominally holy means and ends are sanctified because some authority, some scriptural statement, some reason or conscience, has declared them to be so, but only in so far as they answer the common end of all ends, the human welfare. Our maxim of ends does not at all teach that we should sacrifice love and truths to sanctified faith, but neither does it demand that we should sacrifice faith for love and truth. It merely states the fact that, whenever some superior end has been determined by sense perceptions or circumstances, all means contrary to that end are unholy, and that on the other hand means which are generally unholy may become temporarily and individually sanctioned by their relation to some momentary or individual welfare. Wherever peacefulness is actually in favor as a sanctified means, war is unholy. When, on the other hand, man seeks his salvation in war, then murder and incendiarism are holy means. In other words, our reason requires for a valid determination of that which is sanctified certain definite material conditions or facts as premises; it cannot determine *the* holy in general, not *a priori*, not philosophically in the old speculative way, but only in concrete cases, *a posteriori*, only empirically.

If we understand that human welfare is the end of all ends, the ideal of all means; if we furthermore dispense with all special determinations of this welfare, with all personal ideas of it, and recognize that it is different under different circumstances, then we understand at the same time that no means is sanctified beyond the sanctity of its end. No means, no action, is positively sanctified or makes for human welfare under all circumstances. According to circumstances and relations one and the same means may be good or bad. A thing is good only to the extent that its results are good, only to the extent that there is good in its end. Lying and cheating are bad only because they result injuriously for ourselves, because we do not wish to be lied to or cheated. But whenever a sanctified end is in question, the deceptive means used in lying and cheating are called tricks of war. If any one is firmly rooted in the goodness of chastity because he thinks it was ordained by God, we cannot discuss the matter with him. But if one honors virtue for the sake of virtue and abhors vice for the sake of vice, in other words, for their consequences, he admits that he sacrifices the lust of the flesh to the end of good health. In short, he admits that the means are sanctified by the end.

In the Christian conception of the world, the commandments of its religion are absolutely good for all time, they are considered good because Christian revelation declares them to be so. This conception does not know that, for instance, its acme of virtue, the specifically Christian virtue of abstemiousness, received its value only by contrast with corrupt heath-

enish licentiousness, but that it is not a virtue when compared to reasonable and normal satisfaction of material needs. It deals with certain means which it calls indiscriminately good without any relation to their ends, and others which it calls indiscriminately bad in the same absolute way. And for this reason, it opposes the above named maxim.

But modern Christianity, modern civilization, has practically long done away with this faith. It does indeed call the soul the likeness of God and the body a putrid food for worms; but its deeds prove that it does not take its religious phrases seriously. It cares little for the better part of man and directs all its thoughts and actions toward the satisfaction of the despised body. It employs science and art, and the products of all climates, for the glorification of the body, clothing it sumptuously, feeding it luxuriously, caring for it tenderly, resting it on soft cushions. Although they speak slightly of this earthly life in comparison to the eternal life beyond, yet in practice they cling for six days of the week to the uninterrupted pleasures of this body, while heaven is hardly considered worthy of careless attention for more than one short hour on Sundays. With the same thoughtless inconsistency the so-called Christian world also attacks our maxim with words, while in practical life it sanctifies the despised means by the end of its own welfare, going even so far as to demonstrate its inconsistency in its own life by subsidizing prostitution with state funds. The fact that the legislative bodies of our representative states keep down the enemies of their bourgeois order by courtmartial and exile, that they justify this course by the proverb, "Do unto others as you would

that they should do unto you," in the interest of "public" welfare, or that they defend their divorce codes by the plea of individual welfare, proves that the bourgeoisie also believes in the motto: The end sanctifies the means. And even though the citizens delegate rights to the state which they deny to themselves, also our opponents cannot but admit that in so doing the citizens are simply delegating their own rights to the superior authority of the state.

True, whoever employs lying and cheating in the bourgeois world for the end of gaining wealth, even though he may make it one of his ends to give to charity, or whoever steals leather, like Saint Chispinus, for the purpose of making shoes for poor people, does not sanctify his means by his end, because the end in that case is not sanctified, or only nominally so, only in general, but not in the concrete case quoted. For charity is an end of but inferior holiness which must not be more than a means compared to the main end of maintaining bourgeois society, and whenever it contravenes this main purpose, charity loses its character of a good end. And we have already seen that an end which is sanctified only under certain circumstances cannot sanctify its means beyond them. The indispensable condition of all good ends is that they must be subservient to human welfare, and whether this welfare is secured by Christian or pagan, by feudal or bourgeois means, it always demands that the things which are considered unessential and of lesser importance should be subordinated to the essential and necessary things, while in the above quoted cases the more salutary honesty and bourgeois respectability would be sacrificed to the less salutary charity.

"The end sanctifies the means" signifies in other words that in ethics as well as in economics, the profit must justify the investment of the capital. Again, if we call the forcible conversion of infidels a good end, and an arbitrary police measure a bad means, this does not prove anything against the truth of the maxim, but only testifies to its wrong application. The means is not sanctified in the case, because the end is not, because a forced conversion is not a good end, but rather an evil one resulting in hypocrisy, and because such a conversion does not deserve this name, or because force is a means which is unworthy of this term. If it is true that a forcible conversion or wooden iron are senseless ideas, how is it that people will persist in fighting against universally recognized truths with such inconsistencies, such inane word plays, such tricks of rhetoric and sophistry? The means of the Jesuits, sly tricks and intrigues, poison and murder, appear unholy to us only because the Jesuitic purpose, for instance that of extending the wealth and influence and glorifying power of the order, is an inferior end which may make use of the innocent language of the pulpit, but is not an absolutely sanctified end, no supreme end, to which we would grant means that would deprive us of some essential end, for instance of our personal and public safety. Murder and manslaughter are considered immoral as individual actions because they are not means to accomplish our main end, because we incline not toward revenge or blood-thirstiness, nor toward arbitrariness and the wilful dispensation of justice by some judge, but toward lawful decisions and the more or less impartial decrees of the state. But do we not explicitly declare in favor

of the maxim "The end sanctifies the means," when we constitute ourselves into juries and render dangerous criminals powerless by the rope and the ax of the executioner?

The same people who boast of having dropped Aristotle, that is to say the belief in authority, for centuries, and who therefore replaced the dead traditional truth by living self-gained truth, are found to be completely at odds with their own development in the above cited cases. If we listen to the recital of some funny story, which may be told by even a reliable witness, we nevertheless remain loyal to the principles of free reason, that is to say we are free to regard as serious and regrettable any incident which the narrator may consider funny and ridiculous. People know how to distinguish between a story and the subjective impression its incidents created on the mind of the narrator, and which depends more on the personality of the witness than on the actual facts. But in the matter of good ends and bad means it is proposed to neglect the distinction between an object and its subjective end which is otherwise the point of all critique. Such ends as charity, the conversion of infidels, etc., are thoughtlessly, *a priori*, called good and holy, because they once were so under particular conditions, while now their effect in the cases above cited is just the opposite, and then people wonder that the unrighteous title carries with it unrighteous privileges.

Only that end is worthy of the predicate good or holy in practice which is itself a means, a servant, of the end of all purposes, of welfare. Whenever man seeks his welfare in bourgeois life, in production and

commerce of commodities, and in the undisturbed enjoyment of his private property, he clips his long fingers by the commandment: "Thou shalt not steal." But wherever, as among the Spartans, war is regarded as the supreme end and craftiness as a necessary quality of a warrior, there thieving is used as a means of acquiring craftiness and sanctioned as a means for the main end. To blame the Spartan for being a warrior instead of a sedate bourgeois would be to ignore the facts of reality, would be equivalent to overlooking that our brain is not designed to substitute imaginary pictures for the actual conditions of the world, but is organized to understand that a period, a nation, an individual is always that which it can and must be under given circumstances.

It is not from mere individual and unpraiseworthy fondness for the paradox that we subvert current views by defending the maxim "The end sanctifies the means," but from a consistent application of the science of philosophy. Philosophy originated out of the belief in a dualist contrast between God and the world, between body and soul, between the flesh and the spirit, between brain and senses, between thinking and being, between the general and the concrete. The conciliation of this contrast represents the end, or the aggregate result, of philosophical research. Philosophy found its dissolution in the understanding that the divine is worldly and the worldly divine, that the soul is related to the body, the spirit to the flesh, thinking to being, the intellect to the senses, in the same way in which the unity is related to the multiplicity or the general to the concrete. Philosophy began with the erroneous supposition that the one, as

the first thing, was the basis on which developed the two, three, four, and the entire multiplicity of things by succession. It has now arrived at the understanding that truth, or reality, turns this supposition upside down, that the reality with its multiplicity of forms, perceivable by the senses, is the first and foremost thing out of which the human brain gradually derived the conception of unity or generality.

No achievement of science can be compared with the amount of talent and intellectual energy consumed in harvesting this one little fruit from the field of speculative philosophy. But neither does any scientific novelty encounter so many deep-rooted obstacles to its recognition. All brains unfamiliar with the outcome of philosophy are dominated by the old belief in the reality of some genuine, true, absolutely universal panacea, the discovery of which would make all sham, false individual panaceas impossible. But we, on the other hand, have been taught by the understanding of the thought process that this coveted panacea is a product of the brain and that, since it is supposed to be a general and abstract panacea, it cannot be any real, perceptible, concrete panacea. In the belief in an absolute difference between true and false welfare, there is manifested an ignorance of the actual operations of brain work. Pythagoras made numbers the basis of things. If this Grecian philosopher could have realized that this basic nature was a thing of the mind, of the intellect,* and that numbers were the basis of reason, the common or abstract content of all intellectual activity, then we should have been spared all the disputes

*Which was gained by the mind's contact with its sense-perceived multiplicity of the world.—Editor.

which have raged around the various forms of absolute truth, about "things in themselves."

Space and time are the general forms of reality, or reality exists in time and space. Consequently all real welfare must be attached to space and time, and every welfare which exists in these dimensions must be real. The different welfares, in so far as their beneficent qualities are concerned, are to be distinguished only by their height and breadth, by the quantity of their dimensions, by their numeral relations. Every welfare, whether true or seeming, is perceived by the senses, by practices of life, not by abstract reason. But practice assigns the most contradictory things to different people at different times as means to their welfare. What is welfare in one place, is disaster in another, and vice versa. Understanding, or reason, has nothing else to do in the matter than to number these various welfares as they are made real by sense perceptions in various persons and times, and degrees of intensity, in the order in which they appear, and thus to distinguish the small from the great, the essential from the unessential, the concrete from the general. Reason cannot dictate to us autocratically in matters of some absolutely true welfare, it can only indicate the most frequent, most essential, and most universal welfare in a certain perceived number of welfares. But it must not be forgotten that the truth of such an understanding, or enumeration, depends on certain definite premises. It is therefore a vain endeavor to search for the true and absolute welfare. This search becomes practical and successful only when it limits itself to the understanding of a definite amount of welfare of some par-

ticular objects. The general welfare can be found only within definite boundaries. But the various determinations of welfare agree in this respect, that they all consider it well to sacrifice the little for the great, the unessential for the essential, and not vice versa. In so far as this principle is right, it is also right for us to employ for the good end of a great welfare some small means in the shape of a small evil and to endure it, and thus we see once more that the end sanctifies the means.

If people were liberal enough to permit every one to go to heaven in his or her own way, the opponents of our maxim would be easily convinced of its truth. But instead of doing this, people follow the usual course of shortsightedness and make their private standpoint a universal one. They call their own private welfare the only true welfare, and regard the welfare of other nations, times and conditions a mistake. So does every school of art declare its own subjective taste to be objective beauty, ignoring the fact that unity is but a matter of ideas, of thought, while reality is full of the most varied forms. The real welfare is manifold and the true welfare but a subjective choice which, like a funny story, may make an entirely different impression on others, and be a false welfare. Even though Kant, or Fichte, or some other particular philosopher, may discuss at length the purpose of mankind and solve the problem to his full satisfaction and to that of his audience, we nevertheless have learned enough today to know that one can define one's own personal idea of the purpose of mankind by means of abstract speculation, but that one cannot discover any unknown and hidden object in this way. Thought, or

reason, requires some object, and its work is that of measuring, of criticising. It may distinguish between true and false welfare, but will also remember that they have their limits, remember that it is itself personal and that its distinctions are likewise personal and cannot be generalized beyond the point where others receive the same impression of the same object.

Humanity is an idea, while man is always some special person who has his or her peculiar life in a definite environment and is therefore subservient to general principles only from motives of self-interest. The sacrifice of ethics, like that of religion, is only seemingly a self-denial and serves the ends of reasonable self-interest, an expenditure with a view to greater gains. A morality worthy of that name which is not better defined by the term obedience can be exercised only through the understanding of its worth, of its value for our welfare, of its usefulness. The variety of political parties is conditioned on the varieties of the interests concerned, and the difference in the means is conditioned on the difference in ends. In questions of less importance even the champions of absolute morality testify to this fact.

Thiers in his history of the French Revolution tells of a peculiar situation in the year 1796, when the patriots held the public power and the royalists carried on a revolutionary propaganda. It was then that the partisans of the revolution, who should have been the champions of unlimited liberty, demanded coercive measures, while the opposition, who secretly cared more for a monarchy than for a republic, voted for unlimited liberty. "To such an extent are parties governed by their self-interests," comments Thiers,

just as if this were an anomaly instead of being the natural, necessary and inevitable course of the world. When, on the other hand, it is a question of the fundamental laws of bourgeois order, then the moral representatives of the ruling classes are egotistic enough to deny the connection of their material interests with these laws and to claim that theirs are eternal, metaphysical world laws, that the pillars of their special class rule are the eternal pillars of humanity, and that their own means alone are holy ones and their end the final end of the universe.

It is a disastrous deception, a robbing of human liberty, an attempt to cause the stagnation of the historical development, if any age or class thus proclaims its own peculiar purposes and means to be for the absolute welfare of humanity. Morality originally reflects one's interests just as fashion reflects one's taste, and finally the action is moulded after the conceived pattern like the coat in dressing. In this process, force naturally is exerted for the maintenance and protection of one's own life and those who resist are subdued. Interest and duty, though perhaps not entirely synonymous, are certainly closely related. Both of them are merged in the term welfare. Self-interest represents more nearly the concrete, immediate, tangible welfare, while duty concerns itself with the more remote and general welfare of the future also. While self-interest considers the present tangible metallic welfare of the purse, duty demands that we keep not only a part of welfare, but all welfare in mind, that we consider the future as well as the present, that we remember the spiritual welfare as well as the physical. Duty thinks also of the heart, of social needs, of the

future, of the spiritual weal, in brief of interest in general and urges us to renounce the superfluous in order to secure and retain the necessary. Thus your duty is your self-interest and your self-interest your duty.

If our ideas are to adapt themselves to truth, or to reality, instead of reality or truth adapting itself to our notions or thoughts, we must understand that the mutability of that which is right, holy, moral, is a natural, necessary and true fact. And we must grant to an individual the theoretical freedom which cannot be taken from it in practice, we must admit that it is as free now as it has ever been, that laws must be adapted to the needs of the social individual and not to the vague, unreal, and impossible abstractions, such as justice or morality. What is justice? The embodiment of all that is considered right, an individual conception, which assumes different forms in different persons. In reality only individual, definite, concrete rights exist, and man simply comes along and abstracts from them the idea of justice, just as he abstracted from different kinds of wood the conception of wood in general, or from material things the conception of matter. It is just as far from the truth, to think that material things consist of, or are by virtue of, abstract matter, although this view is widely spread, as it is to believe that the moral or bourgeois laws were derived from the idea of justice.

The ethical loss caused by our realistic, or if you prefer, materialistic, conception of morality is not so great as it appears. We need not fear that through this conception social beings will become lawless cannibals or hermits. Freedom and lawfulness are closely allied by the need for association which com-

pels us to permit others to live together with us. If a man is prevented by his conscience or by other spiritualistic or bourgeois ethics from committing unlawful actions—unlawful in the wider meaning of the term—he is either not exposed to very grave temptations, or he has a nature so tame that the natural or legal punishments fully suffice to keep him within prescribed bounds. But where these checks are ineffective, morality is likewise powerless. If it were otherwise, we should have to assume that morality exerts in secret the same influence on the faithful which is exerted by public opinion on the faithless. But we know from actual experience that there are more pious thieves than infidel robbers. That the world, which attributes so much value for social welfare to morality by word of mouth, actually shares this view of ours, is proven by the fact that bourgeois society gives more attention to the penal code and to the police than to the influence of morality.

Moreover, our fight is not directed against morality, not even against any special form of it, but only against the arrogance which assumes to stamp some concrete form of morality with the trade mark of absolute morality. We recognize that morality is eternally sacred, in so far as it refers to considerations which a man owes to himself and to his fellowmen in the interest of their common welfare. But the freedom of the individual demands that each one should be at liberty to determine the degree of consideration and the manner of giving it expression. Under these circumstances it is as inevitable that the ruling powers, classes or majorities should enforce their special needs under the form of a prescribed right, as it is that

a man's shirt should be closer to his skin than his coat. But it appears to us not merely very superfluous, but even detrimental to the energies required for the progress of the future, that some decreed right should be elevated to the position of absolute right and transformed into an insuperable barrier to the advance of humanity.

Letters on Logic
Especially Democratic-Proletarian Logic

BY JOSEPH DIETZGEN
Translated by Ernest Untermann

Editorial Remark.

The "Letters on Logic," treating on the same subjects as "The Positive Outcome of Philosophy," were intended by the author to be replaced by this subsequent work.

We publish, however, both these works in hopes that the reader will pardon the frequent repetitions on account of the additional light that other parts of the "Letters on Logic" are apt to impart.

LETTERS ON LOGIC

FIRST LETTER

Dear Eugene:

You have now reached the age at which the students go to the university. There, according to custom, they register first of all for a course in logic, whether they choose the study of law, medicine, or theology. Logic is, so to say, the elementary study in all branches of learning. Now you know, my dear, that school and life are regarded as two separate things. I should like to call your attention to their connection. We live also in school, we are schooled also by life. I should like to consider your trip across the Atlantic ocean as your first venture in the high school of life, and assume the role of your professor of logic.

I feel well qualified for this office. Although I am not well up in Latin and Greek, still I feel competent to guide you to the depths of logical science better than a German professor trained and installed according to the most approved pattern. You will admit the possibility of such a thing. For one who knows little may explain that little with more ease and efficacy than one who has his head stuffed full of the prescribed bunch of official wisdom.

You, my son, have been so fortunate as to enjoy a seven years' course in a German college. And since

your teachers, at your departure, gave you the highest certificate, I may well consider you as qualified not only to enter the school of life in the United States, but also to listen intelligently to my lectures on logic.

But in order that my well trained pupil may not look down upon his self-taught teacher, I appeal to the fact that even the man with the best all-around education will be a tyro in specialties; and that, on the other hand, ignorance in many things does not exclude the possibility of knowing more about a certain specialty than science has heretofore grasped. Now I claim in this case to have acquired a knowledge of the subject with which I intend to deal here that surpasses anything I have been able to find in the professional literature. I mention this, my dear Eugene, with all due modesty, not for the purpose of throwing a halo around my personality, but in order to give a certain authority to my office as teacher and to inspire my pupil with confidence.

Yes, I value confidence. Although you know me as a democrat who cares nothing for authority, you shall also learn to know me as a graduate in dialectics who, though he may empty the bath, still retains his hold on the child and does not permit it to float off with the water. Children, and one may say nations in their childhood, cannot do without authority, and a teacher, whether he instruct children or nations, cannot dispense with a certain confidence-inspiring air. The pupil must believe in the wisdom of his teacher, in order that he may approach the master with the necessary attention and willingness to learn. Later on the understanding of the subject makes all authority superfluous. Thus a thing so sublime as author-

ity is subject to the destructive tendencies of time, to the historical process.

Hitherto mankind has often been tempted by preconceived notions to idolize vain things. It has been attempted to shield not only authority in general, but, what is still worse, this or that throne or altar, against the attacks of time. The relation between the perishable and the imperishable has always been subject to much misunderstanding. Now since logic is that science which aims to set the intellect aright, we shall have to touch occasionally on the general misconception of time and eternity.

The most famous expounders of logic are reproached for their cumbrous style and their obscure mode of explanation. Even masters of languages have complained in my hearing about the foreign terms used by that branch of science, terms which even they could not understand. Much of the blame for this condition of things may fall on the difficulties of the subject, which have baffled all elucidation for thousands of years. Some of the blame also falls on the bad habit of using learned vernacular. But the greatest fault lies with the mental laziness of the students. Nothing can be learned without mental exertion. If you are concerned in your further development, you will recognize the Christian word as to the curse of work as untrue. Work cannot be descended from sin, for it is a blessing. You will have experienced in yourself how elated one feels after successful physical or mental work.

The things which science yields without exertion can be at most axiomatic commonplaces.

I assume that you are quite willing to perform the

necessary mental labor, and I promise you that I shall do my best to make this study easy for you. I do this so much more readily, as I frankly confess that these letters to my son are written with the intention of making them accessible to a wider circle of readers by means of the press.

Before concluding, let me say a word about my aim of speaking especially of democratic-proletarian logic. You will think or say: Logic may be a subject worthy of study, but a special democratic-proletarian logic can surely treat of nothing but party matters. But just as the special accomplishments in this or that line, the special advances of this or that nation, are at the same time general advances, progress of civilization, so the ideas of proletarian logic are not party ideas, but conclusions of logic in general. You may reply: Even though the special thought of a Chinaman may be quite consistent and logical, still we would not call it Chinese logic. That would be quite true, but it does not meet my point.

The thought on which the proletarian demands are based, the idea of the equality of all human beings, this ultimate proletarian idea, if I may say so, is fully backed up by the deeper insight into the tortuous problem of logic. Now, since this idea dominates mankind, it certainly has more right than any Chinese idea. Furthermore, industrial development has leveled, simplified, cleared all social conditions to such an extent that it becomes ever easier to penetrate with sober eyes into the secrets of logic. Finally, my logic deserves its proletarian qualification for the reason that it requires for its understanding the overcoming

of all prejudices by which the capitalist world is held together.

The cause of the people is not a party matter, but the general object of all science.

The people's cause as the ultimate object, and logic as the most elementary and most abstract science, as ultimate science, are as intimately connected as plants and botany, or as laws and the legal profession. So are the interests of democracy and the proletariat intimately connected. The fact, that this has not been well recognized in the United States so far, is more a proof of the lucky condition of that country than of the scientific knowledge of its democracy. The spreading primeval forests and prairies offered innumerable homesteads to the poor and they obscured the antagonism between capitalists and wage workers, between capitalist and proletarian democracy. But you still lack the knowledge of proletarian economics which would enable you to recognize without a doubt that it is precisely on the republican ground of America that capitalism makes giant strides and reveals ever more clearly its twofold task of first enslaving the people for the purpose of freeing them in due time.

SECOND LETTER

Dear Eugene:

Having written the first letter by way of introduction, I now am ready for a gradual approach to my subject.

Logic aims to instruct the human mind as to its own nature and processes; it will lay bare the interior working of our mind for our guidance. The object of

the study of logic is thought, its nature, and its proper classification.

The human brain performs the function of thinking as involuntarily as the chest the function of breathing. However, we can, by our will, stop breathing for a while, and accelerate or retard the breathing movements. In the same way, the will can control the thoughts. We may choose any object as the subject matter of our thought, and yet we may quickly convince ourselves that the power of our will and the freedom of the mind are not any greater than the freedom of the chest in breathing.

While logic undertakes to assign the proper position to our brain, still it has to remember that nature has already assigned that position.

It is with logic as it is with other sciences. They draw wisdom from the mysterious source of plain experience. Agriculture, e. g., aims to teach the farmer how to cultivate the soil; but fields were tilled long before any agricultural college had begun its lectures. In the same way human beings think without ever having heard of logic. But by practice they improve their innate faculty of thought, they make progress, they gradually learn to make better use of it. Finally, just as the farmer arrives at the science of agriculture, so the thinker arrives at logic, acquires a clear consciousness of his faculty of thought and a professional dexterity in applying it.

I have two purposes in mind in saying this. Firstly, you must not expect too much from this science, for you cannot set contrary brains to rights by any logic. Secondly, you must not think too little of it, by regarding the matter as mere scholastic word-

mongery and useless hairsplitting. In daily life, as well as in all sciences, we never operate without the help of thought, but only with it, hence an understanding of the nature of the processes of thought is of eminent value.

Logic has its history like all sciences. Aristotle, whom Marx calls the "Grecian giant of thought," is universally recognized as its founder.

After the classic culture of antiquity had been buried by barbarism, the name of Bacon of Verulam rose with the beginning of modern times as a philosophical light of the first order. His most famous work is entitled "Novum Organon." By the new organ he meant a new method of research which should be founded on experience, instead of the subtleties of the purely introspective method hitherto in vogue. After him, Descartes, or Cartesius, as he called himself in literature, wrote his still famous work, "About Methods." I furthermore recall Immanuel Kant's "Critique of Reason," Johann Gottlieb Fichte's "Theory of Science," and finally Hegel, of whom the biographer said that he was as famous in the scientific world as Napoleon in the political.

Hegel calls his chief work "Logic," and bases his whole system on the "dialectic method." You have only to look at the titles of these philosophical masterpieces in order to recognize that they all treat of the same subject which we are making our special study, viz., the light of understanding. The great philosophers of all times have searched for the true method, the method of truth, for the way in which understanding and reason arrive at science.

I merely wish to indicate that this subject has its

famous history, but I do not care to enter more deeply into it. I will not speak of the oppression and persecution, which was inaugurated by religious fanaticism. I will not enumerate the various events that led to a greater and greater light from generation to generation. The attempt to trace this history would entangle us in many disputed questions and errors which would only increase the difficulties of this study for the beginner.

If a teacher of technology were to instruct you on steam engines and, to explain their first incomplete invention, trace their further development historically from improvement to improvement, until he should arrive at the height of perfection attained in their present day construction, he would also be advancing on a path, but on a tedious one. I shall endeavor to show my subject at the outset in the very clearest light which has ever been thrown on it by the help of the nations of all times. If I succeed in this, it will be easy in the future, in the reading of any author, to separate the chaff from the wheat.

I can afford to dispense with quotations and proofs from others in trying to make my case and demonstrating the positive product of social culture, for we are dealing with the most universal and omnipresent object,—one which enters into every spoken or written sentence with its own body. If anybody tells of far off times or wonderful things, he must quote witnesses. Now, much of what I have to say for my case may sound wonderful, because it runs counter to the popular prejudice, but the only witness required to prove the truth of my statements is the clear brain of my pupil, who has only to examine his own experience

without preconceived notions, in order to find proofs on every hand.

It is surprising in the first place, that such a near at hand object has not been understood long ago and that so much still remains to be explained and to be taught after thousands of years of study. But you know that just as the small things are often great, and great things small, so the nearest things are often hidden and the hidden things nearest.

I promised you in the first sentences of this letter, dear Eugene, that I would now pass from introduction to subject matter. But since I have really continued to move around the outer edge of the subject instead of entering into its midst, you might become impatient, and so I will justify my method. It is a peculiarity of this subject matter that it exposes me to this charge. It is a peculiarity of thought that it never stays with itself, but always digresses to other things. The thought is the plank to which I should stick, but it is the nature of this plank never to stick. Thinking is a thing full of contradictions, a dialectical secret.

Now I know that here I am saying something which it is very hard for you to understand. But look here, has it not always been so? When you began declining Latin words in the sixth class, you were unable at once to grasp the full meaning of declension. You knew what you were doing, and yet you did not entirely understand it. Only after penetrating more deeply into the construction of the language did the meaning and purpose of the beginning become clear to you. In the same way, you now must try to digest as much as you can of what I say, and after you have gone more deeply into this matter, you will fully

understand me from beginning to end. In taking lessons from an author, on an unknown subject, I have always followed the method of first getting a superficial view of the subject, of glancing over its many pages and chapters, in order to return to the beginning and acquire a thorough knowledge by repeated study. With the growing familiarity with the subject the ability to understand it grew, and at the conclusion the thing became clear to me. This is the only correct method I can recommend to you.

In conclusion let me say for to-day in passing that the recommendation of the correct method for studying logic is not only an introduction, but, as I have already said, the subject matter of science itself.

THIRD LETTER

Dear Eugene:

My task of teaching logic requires two things: a logician and a teacher.

The last named capacity requires that I should clothe the subject in an attractive way. Permit me, therefore, to combine the didactic style with that of the story teller, and to relate at this point an episode from a novel of Gustav zu Putlitz:

The organist of a certain village is lying on his deathbed. His last strength has been spent on the previous day in playing a hymn, and after its conclusion he was carried from the church in an unconscious state. He had played his masterpiece, but at the same time his last piece. A despised stage girl had accom-

panied him with a voice like that of a nightingale. But neither she nor the organ player had earned any applause from the stupid villagers.

The old man looked around in his room, his eyes were first riveted on his faithful piano, his friend and companion through life. He extended his hand, but it sank down exhausted. He had not had the intention to touch the piano anyway. It was only like stretching out one's hand for a friend far away. Then he looked through the window trying to recollect what time of the day it was. And when he had taken in the situation, he turned to the girl kneeling at his feet.

"Poor child," he began, "you were deeply disappointed yesterday. I felt very much hurt, when I first heard of it, but after that everything became clear to me while I heard the music all night, until a short while ago. Rejoice, my girl, at being reviled, for it is done for the sake of that sacred music, and it is an ecstasy, a blessing, to be martyred for one's music which is well worth all injuries. I did not fare any better all my life, and if I thank God for all the good he has done me until this hour, I also thank him first and most fervently for the gift of music which he bestowed on the world, and which he revealed to me most wonderfully in my most painful hours.

"For my music I have starved and suffered all my life, and my gain was delicious, my reward celestial for this poor perishable stake.

"My father was an organist in a little town of Eastern Frisia. His father had held the same position in the same church, and, I think, so did the father of his father follow music for a profession. Music has been

the heirloom of our family for generations. True, it was the only heirloom, but I have cherished it and held its flag aloft all my life. When God calls me away, I shall leave nothing behind but that old piano and the sheet music which I wrote myself, for in all other respects I have always been poor. I might have done differently, and my wife has often upbraided me for it, but she does not understand the blessing of music. I do not blame her for that, for it was not her fault that God closed her ear to music as he did the ears of many others. Poor people, how cold and dreary must be their lives when music does not scatter blossoms in their path and bathe their temples in light. But there will come a time when their ears will be opened, and God will compensate them in heaven for what they missed here below.

“We who love music have tasted a part of eternal bliss here below, for harmony which dissolves all chords is eternal life and its wings are fanning us in this terrestrial life——

“Do you see, I know it well, and no one besides me, how it is when the soul prepares to leave the perishable body and enter the song of the spheres—

“You do not understand me, my girl, but do not worry, you also will understand some day. I will only tell you this much, and it shall be a consolation to you when the world treats you roughly hereafter. All of us, whether rich or poor, whether reclining on soft silken cushions or on hard straw, all of us enter life with the celestial melodies in our hearts. The beating of time goes with us as long as we are breathing. It is the beating of the heart in our breast. We may seem to lose the melody, even the measured step of time

seems to become confused by our passion, but in the blessed hours we always find our melody anew, and then we feel at home in the path of our life."

Thus the old organist idolized his music.

But it is not alone the harmony of music which has such a power over the mind. The harmony of colors, every art and science, has the same power. Even the most common craft, and the most prosaic of all prose, the chase after the dollar, may take possession of a man's soul and prostrate him in adoration before its idol. True, not every one is so sentimentally inclined, and even the sentimentalist is so only in especially sentimental moments. Furthermore it cannot be denied that artists, inventors, and explorers are worshipping the most worthy and most adorable objects. And I admit that no great success can be accomplished without putting your whole soul into some great aim.

Nevertheless you should know that anything which may take possession of one's soul shares its sublimity with all other things, and is for this reason at the same time something ordinary. Without such a dialectic clarification of our consciousness all adoration is idol worship.

The actual experience, then, that anything and everything may serve as an idol should clearly convince you that no one thing, but only the universe is the true God, is truth and life.

Now, is this logic or is it theology?

It is both. At closer range you will notice that all great logicians occupy themselves a great deal with God and deity, and that on the other hand all honest

theologians are trying to base their faith on some logical order. Logic is by its whole nature metaphysical.*

There exists a class of logicians who attempt to deny the inevitable connection between the celestial region and the tangible universe. Some of them do so from excessive religious delicacy of feeling, in order to protect the sublime from the disintegrating effects of critique. Others have such an antipathy against the religious abuses that they do not wish to hear any more about religion. Both classes adhere to the so-called formal logic.

These adherents of formal logic may be compared to a maker of porcelain dishes who would contend that he was simply paying attention to the form of his dishes, pots, and vases, but that he did not have anything to do with the raw material, while it is evident that he is compelled to form the body in trying to embody forms. These things can be separated by words only, but not by actions. In the same way as body and form, the finite and infinite or so-called celestial spheres, the physical and the metaphysical, are inseparable.

Logic analyzes thought. But it analyzes thought as it is in reality, and therefore it unavoidably searches for truth. And whether this truth is found above or below, or anywhere, is a question which just as inevitably brings the logician into contact with the theologian. To think of avoiding such a meeting from considerations of sympathy or antipathy, would be a rude lack of consideration for science.

Metaphysical logic which aims to extend its field

*In the sense of: mental and physical world embracing, all-embracing.—Editor.

to eternity, which looks for logical order even in heaven, and seeks to solve even the so-called last questions of all knowledge, differs in a distinct way from formal logic, which selects a restricted field for its research and confines itself to investigating the logical order of the so-called physical world. This difference is worthy of your special attention, because in it there is hidden the kernel of our whole correspondence.

It is quite a practical method to set a limit for one's investigations, not to fly into clouds, not to undertake anything that cannot be accomplished. Yet you must not forget that practical boundaries are not theoretical boundaries, that they are not invariable boundaries for you, or for others. Although you cannot fly to heaven and will give up the idea of flying machines from considerations of practical expediency, yet you will not wish to deny to man the theoretical freedom of infinite striving even in the matter of airships, and you will not be so small as to give up the idea of the capacity for our race for metaphysical, or in other words, infinite development.

FOURTH LETTER

Dear Eugene:

In my first letter I acquainted you with my purpose, in the second I lifted the subject on my finger tips, so to say, to show it for a brief moment; in the third I showed that its color had inevitably a religious shade. Now, to continue, permit me to introduce another point to your consideration.

The great cause of the working class has hitherto

always been the beast of burden of a small and exclusive minority. This is most evident in the slave states of antiquity, in Egypt, Greece, Rome. Likewise in the feudal and guild systems of the middle ages the oppression of the mass of the people is sufficiently apparent. At present this condition of things is more visible in Eastern Europe, in Russia, Turkey, Bulgaria, Hungary, Eastern Prussia, etc., than in the industrial countries of the West. In the United States of America it is most obscured, so that there the people hardly realize their enslaved condition. In America, many of the upper ten thousand have made their way from the bottom up, and it happens more frequently than in Europe that the captains of industry laid their foundation by hard work. The shortsighted observers then easily forget out of sympathy for the hard beginning that there is sharper's practice at the end, and they indulge in the idle hope that every hard working beast of burden might transform itself into a happy millionaire by thrift and smartness.

You will probably ask: What has that to do with logic or the art of reasoning? Patience! You will admit that the emancipation of the nations from beastly toil, misery and suffering is the highest goal of the human mind. Nor will you deny that the thought is the most essential instrument for reaching this high goal. The accomplishments of thought are visible in the results of civilization. The proletariat of the present, also that of Russia, Turkey, East Prussia, participates in these accomplishments of thought. It participates not alone in the sense that its brains are better educated and cultured, but also that its food, clothing, and shelter have become more civilized through the

progressive deeds of intellect.

You see, then, that the people's cause is connected with the faculty of thought, and the nature of the latter may be illustrated as well by the example of the development of civilization. The complicated network of wheels in a watch may also serve to demonstrate the nature of that which language designates by many names, such as spirit, intellect, faculty of knowledge, reason, etc. Only it must be remembered that this mysterious something cannot be shown by itself, but only in connection with other things, whether they be the history of civilization or a watch. There will then be no contradiction in finding that the intellectual life appears more powerful and magnificent through the clockwork of the history of civilization than through any miniature product of thought.

In searching for the connection of things, one generally seeks to recognize the manner or the degree of the connection. But we, in this case, disregard the question as to how the things of this world are related to one another and to thought, and we simply make a note of the fact of the interdependence of thought and being, of nature and mind. This fact of the universal interconnection of things contradicts the untrained prejudice. The uncultivated brain nurses the illusion that the earth, the trees on it, and the clouds and the sun above them are separate things. But it requires a better training of reason to understand that the earth, the tree, the clouds, and the sun, can be what they are only in the universal interconnection. I remember reading an article from Fichte, in a German school reader, which clearly showed that the disarrangement of an insignificant object during the process of think-

ing causes us to disarrange the whole history of the world in our thoughts. It is well known that one unfamiliar with political economy overlooks the fact that the business men not only carry on their trading for their private benefit, but are also members of the process of social production. It is overlooked that all labor, aside from being individual activity, is at the same time an organic part of social labor. And just as ignorance of economics overlooks the industrial interdependence, so ignorance of logic overlooks the cosmic interrelations.

Here is a drop of water. Look how different it is according to the different things with which it is connected. It cannot be what it is without a certain temperature. According to changes in temperature, it will assume either the form of ice or of steam. In fat the drop remains compact, in salt it divides infinitely, runs downhill in general and uphill in a loaf of sugar. According to the specific gravity of a certain fluid, with which it may come into contact, it either floats on the surface or sinks. Without a connection with the earth, its temperature and gravitation, this drop and all others would disappear in the fathomless abyss and have no existence. Thus the forms of things change according to their connections, and they are what they are only as parts of the universal interrelation.

What is true of a drop of water, is true of all things, all forces and substances, even of our thoughts. The human mind lives and works only in connection with the rest of the material universe—and the recognition of the organic unity of all things is the fulcrum of my logic.

Old line metaphysical logic was so enamored of its object that the descent, the kinship, and the connection with the common things of this world seemed too ordinary for the exquisite spirit. That logic was transcendental, and therefore its chosen object likewise had to be in touch with a transcendental world. And though it was scientific enough to regard the tale of the creation of the first soul by the breath of God as a fable, it was nevertheless so prejudiced in favor of the extraordinary nature of the intellect that it did not abandon, for thousands of years, the hope of finding in that intellect a source which would reveal transcendental matters. Formal logic now entirely discards this hope of a fantastical world, but at the same time it misunderstands the natural connection between the spirit and the common world. It isolates the instrument of thought and leaves the question undecided whether this instrument has a natural, supernatural, or no connection at all. It overlooks that just as logic is real, so reality is logical, and does not see that the back door which leads to illogical heaven by way of faith deserves the disdain of science.

Thought, intellect, are really existing, and their existence is a uniform part of the universal existence. That is the cardinal point of sober logic.

The fact that the thoughts are of the same worldly substance as the other parts of the universe, that they are parts of common nature and not a transcendental essence, has already been expressed by Cartesius in the famous words: "*Cogito, ergo sum,*" I think, therefore I am.

The fact of my thinking, says the philosopher, proves my existence. In order to come to an absolute

conviction on the nature of truth and error, he sets out by doubting everything. And then he says that he cannot doubt the existence of his thoughts. He thus placed the spirit on the basis of real life, delivered it of its transcendentalism, and that constitutes his everlasting merit.

However, not alone Cartesius, but also your own experience testifies to the inseparable connection between thinking and being. Have not your thoughts been connected always and everywhere with some worldly or real object? If you attempt to isolate thought in order to ponder over it, you can only do so because that thought has been experienced by you and therefore was in every instance attached to some worldly object. True, you have thought of Greek gods, brownies, and mermaids. But you, an amateur in painting, are familiar enough with that part of the mind which is called imagination in order to admit that even this eccentric part of the mind does not only act, and therefore, exist in reality, but also derives all its products from reality, so that even its most fantastical vagaries and illusions are still real pictures, reflections of reality.

But how is it that I require such a multitude of words in order to state over and over again that the thought has a real existence and is a uniform part of the universe? Simply because from time immemorial the confusion in matters of logic is so great that the human spirit is in the same breath exalted to heaven, and yet its thoughts regarded as nothing real, nothing true. This is made plain by the fact that a sharp distinction is commonly made between that which is real and that which is only imagined, and this

difference is exaggerated to such an extent that it appears as if the idea, which indeed is only in the brain, has no real existence at all.

In order that you may understand the interrelations of the things of the universe, I must warn you against this exaggeration and prove that the intellect has a real existence which is connected with the universe or reality. Botany, which occupies itself with plants, does not only teach us to divide them into classes, orders, and families, but it also does more by showing us what place in the entire realm of nature is occupied by the vegetable kingdom, by pointing out the differences which distinguish the plants from the inorganic mineral kingdom or the organic animal kingdom. Formal logic similarly dissects the spirit into its parts, makes distinctions between conceptions, ideas, judgments, conclusions, divides these into subdivisions, classifies conceptions according to species, separates abstract and concrete thought, knows many varieties of judgments, registers three, four, or more modes of conclusion. But at the same time this formal logic recoils from touching on the question as to how the universal spirit is related to the universe, what role it plays in the general existence, whether it is part and parcel of nature or transcendental. And yet this is the most interesting part, the part which logically connects the intellect and the science of the intellect with all other sciences and things.

Logic must teach us how to distinguish. It is not a question, however, of distinguishing sheet iron from gold, or a greyhound from a pug-dog, for this is done by special lines of knowledge. Logic must rather enlighten us about that part of the faculty of distinguish-

ing which is generally required in all branches of knowledge, whereby truth and error, imagination and reality are recognized. To this end I feel impelled to advise you not to overlook that even error and imagination belong to the one infinite and absolutely coherent reality. For the purpose of distinguishing true imagination from actual reality, it must be remembered that just as rye bread and cream puffs agree in belonging to the general category of baker's products, so imagination and truth, thought and reality, are two different kinds of the same nature.

To sum up the contents of this letter, let me point out that its beginning shows the connection of the intellect with the development of the people, while its conclusion explains the wider connection of the mind with the universal existence.

FIFTH LETTER

A man not trained in logical thinking is handicapped by the absence of a monistic method of thought. Monistic is synonymous with systematic, logical, or uniform.

If we call a cream puff a tidbit and rye bread a food without remembering that every food is a tidbit and every tidbit food, and if we ignore the fact that both of them, in spite of their difference, belong to the same category and are, therefore, related, then we lack logic. And logic is lacking whenever the fact is ignored that all things without exception: substances, forces, or qualities of the world, are chips of the same block, finite parts of the infinite, which is the only truth and reality.

That insects, fishes, birds, and mammals form one and the same animal kingdom, is an old story which has long been patched up by the logical instinct. Darwin did not only enrich the natural sciences, but also perform an invaluable service for logic. In proving how amphibia developed into birds, he bored a hole into the hitherto fixed order of classification. He brought motion, life, spirit into the zoological swamp.

In case you should not be familiar enough with Darwin's work to understand my allusions, I will enter a little more deeply into the matter in a few sentences. The zoologists knew well enough that all species of animals belonged to the animal kingdom; but this classification was a mechanical affair. Now the "Origin of Species," which demonstrates that the zoological classification is not constant but variable, which outlines the actual transition from one species of animals to another, reveals at the same time that this alignment of all animal species in one kingdom is not only a logical mechanism, but also a fact of actual existence. This classification of all animals from the minutest to the most gigantic in one kingdom appeared before the time of Darwin as an order which had been accomplished by thought alone, while after him it was known as an order of nature.

What the zoologists did to the animal kingdom, must be done by the logician to existence in general, to the cosmos. It must be shown that the whole world, all forms of its existence, including the spirit, are logically or monistically connected, related, welded together.

A certain narrow materialism thinks that everything is done and said when the inter-connection between thought and brain is pointed out. A good many things

may still be discovered by the help of the dissecting knife, microscope, and experiment; but this does not make the function of logic superfluous. True, thought and brain are connected, just as intimately as the brain is related to the blood, the blood with oxygen, etc.; but moreover thought is connected quite as intimately with all other things as all physical objects are.

That the apple is not alone dependent on the stem which attaches it to the tree, but also on sunshine and rain, that these things are not one-sidedly but universally connected, this is what logic wants to teach you particularly in regard to the spirit, the thought.

If a traveler in Africa had to report a new animal species, he would not make special mention of the fact of its existence, because that is obvious. And though he were to relate things about the most abnormal existence, we should still know that this abnormality is only a deviation in degree which does not overstep the bounds of existence in general. But the human intellect is a greater novelty than the most wonderful animal species of the interior of Africa.

You know my sharpwitted friend Engländer. When I told him that I was writing articles on the human mind, he advised me not to bother my head about it. He said that this was a subject no man knew anything about. And when the learned Mr. Hinze, whom you also know, wanted to prove the inevitability of religious faith and the inadequacy of all science, he always asked the pathetic question: What is consciousness? And he used to take on an expression, as if he had presented a book with seven seals. Now I don't want to class the professors of logic with such men. But it is a fact that the great multitude, among them many scientists, are quite

unfamiliar with the truth that the existence of the blue sky and of the green trees is a uniform part of the same generality with the existence of our intellect.

For this reason it is necessary to prove that the intellect exists in the same way that all other things do. For it is denied and misunderstood, not only by those who regard the spirit as a being of a transcendental nature, but also by those who admit the existence of the true contents of an ideological concept, but not of thought itself. In short, the matter is so obscure that I feel sure that you will likewise be as yet in doubt whether there are not two kinds of ideological concepts, one of them real, the other unreal.

For two thousand years logic has proclaimed the sentence that thought is a form to be filled with real contents. True thought "must coincide with reality." It is true that there is a germ of sense in this statement, but it is misunderstood. The central point of logic is overlooked. Every thought must not only have a real content, but it is also necessary, in order to distinguish true thoughts or perceptions from untrue, to realize that thought is always and everywhere a part of reality and truth, even when it contains the most singular imaginations and errors.

Just as the domestic cat and the panther are different species of cats and yet belong to the same genus of cats, so true and false thoughts, in spite of all their differences, are of the same genus. For truth is so great that it comprises absolutely everything. Truth, reality, the world, the all, the infinite and the absolute are synonymous expressions. A clear conception of truth is indispensable for the understanding of logic. And in the last analysis it is simply using different

words for the same thing, when I base the quintessence of logic, its fulcrum, cardinal, salient, or distinctive point on the spirit intimately united to nature or on the concept of a uniform world, truth, or reality. I cannot give you a clearer view of truth than by quoting at this place the famous words of Lessing: "If God were to offer me the ever active striving for truth in his left hand and truth in his right hand, I should grasp his left and say: Father, keep truth, it is for you alone." This statement is somewhat highflown and mystical, and Lessing was no doubt somewhat embarrassed by mystical thinking. Still there is a sober truth in these words, which is quite clear and to the point.

"Truth itself" is the universe, the infinite and inexhaustible. Every part of it is a finite part of the infinite and is, therefore, finite and infinite, perishable and imperishable at the same time. Every part is a separate part and connected inseparably with the whole. The human mind, among others, is such a part.

The universal existence, or truth, is the inexhaustible object of the human mind. The fact that in the study of logic the human mind has itself for an object must be explained to the student by pointing out that in this case the subject and the object are both things like all other things, in other words, are a part of truth, a part of natural existence.

"Truth itself" cannot be wholly conceived by the human brain, but in parts. For this reason we possess only the ever active striving for truth; for this reason, furthermore, the conception or knowledge can never be completely identical with reality, but can be only a part of it.

Now permit me to say a few words which do not

sound as would those spoken on the throne of logic, but which are expressed in popular language. If you conceive some real object, whether a church steeple or a thimble, then this object exists twice, viz., in reality and in conception. On the other hand, a certain creation of imagination has only a simple fantastical existence. Such a popular way of thinking is undoubtedly correct. It is incorrect only when the fact is universally ignored that all modes of existence belong to the same genus, the same as a domestic cat and a panther, so that the existence of a thing in our brains, and outside of them in the heavens, on earth, and in all places has a logical meaning only when it is the same existence in spite of all multiplicity. An existence not partaking of the general nature of all existence would be an illogical, nonsensical, thing.

Now, I think you will have no difficulty in understanding me when I say that a church steeple in imagination and the same church steeple in reality are not two church steeples, but that imagination and reality are forms of the same existence.

Ancient logic ordered a medal and had stamped on its face: The thought must be identical with the reality. We now stamp on its reverse side: (1) The thought is itself a part of reality and (2) the reality outside of thought is too voluminous and cannot enter thought even with its smallest particle. What good, under these circumstances, is the old inscription, especially since it does not teach us at all how the identity between thought and its real object is to be attained, known, or measured?

If you, my dear Eugene, should become confused by these statements instead of enlightened, you should have patience and consider that a thing which is to be illumi-

nated by logic must, of course, be first obscure. I believe that I have served you in some way by simply raising a doubt in your mind as to the soundness of the popular way of speaking and if I thus have convinced you of the confusion and inadequacy of the plausible idea of the identity of thought and reality.

True, a thought must agree with its object just as a portrait should. But what good will it do a painter to have his special attention called to this fact?

Have you ever seen a portrait or a copy that did not agree in some respect with the original? I am convinced that this has never been your experience any more than a portrait which was a complete likeness of its object. Your experience will be sufficiently cultivated to know that it can always be a question only of a more or less. I would seriously recommend to you to reflect on the relativity of all equality, similarity, and identity. By far the greater part of humanity is in this respect barbarously thoughtless. It is very difficult to grasp for the logically untrained brain that two drops of water or twins are only relatively alike or unlike, just as are man and woman, negro and white man, and that all existence is just as alike as it is unlike.

It is with the thinker as it is with the painter. They both search for a likeness of reality and truth. In painting as in understanding there are excellent pictures and bad ones. In this respect one may make a distinction between true and false thoughts, but you must also know that even the unsuccessful portrait has some likeness, and that even the most accurate likeness is yet far from being in perfect harmony and identical with its object.

Reality, truth, universal nature, stands in the pulpit

and preaches: "I am the Lord, thy God. Thou shalt not make any graven image to worship it." You must have a far too sublime conception of truth to entertain the idea that any painter or thinker might encompass it fully within the limit of a picture, no matter how good a likeness it may be.

Now, that we have recognized the human mind as a part of actual reality and truth, we see at the same time that undivided reality, the sum of all that is, represents absolute truth which comprises everything. In their capacity of parts of the universe, true and false thoughts, good and bad men, heaven and hell, and all other things, are all pieces of the same cloth, bombs of the same caliber.

SIXTH LETTER

My Dear Son:

After the third letter had acquainted you with the fact that the subject of logic has a certain religious flavor, the two subsequent letters endeavored to show that the logical subject is interconnected with the universal existence of the world, that the faculty of thought is an inseparable part of actual truth. In the vernacular of theology my last two letters have represented the human mind as a part of the living true God.

Christianity teaches: God is a spirit and who would worship him must worship in spirit and in truth.

And logic teaches: The spirit is a part of universal existence. Whoever worships the spirit, is an idolator, for he worships a part and misunderstands the whole truth. Truth itself is identical with the universal existence, with the world, and all things are simply forms,

phenomena, predicates, attributes, passing expressions of it. The universal existence may be called divine because it is infinite, being the alpha and omega which comprises all things as special truths. The intellect is such a limited part among other special parts of divine truth, and the latter is frequently called *world* without any bombastic emphasis.

Undoubtedly, every science, profession and trade can say the same thing of its object. The blue sky and the green trees are divine parts. Everything is interrelated and connected. If that were a good reason for not making any subdivisions, every part and description would become endlessly tiresome.

However, the specialty of logic is the cosmic sum of all truths, because it aims at a general elucidation of the nature of the human brain. This purpose is not so well served by an accumulation of other knowledge as by the general understanding of truth.

Logic, which seeks to enlighten the mind for the purpose of scientific thinking, does not so much treat of true conceptions as of the general and absolute conception of truth which is inseparably linked to the infinite universal life.

If you wish to think scientifically, you will first of all strive after clear ideas. And yet your head may be quite clear in regard to everyday things, without getting any nearer to general clearness. Nor is such clearness obtainable by the accumulation of mere special knowledge, for even if you were to grow in wisdom to the end of your days, nevertheless the fountain of wisdom, the universe, is inexhaustible and your brain will remain imperfectly informed or unclear as before. Yea, even the smallest part of the world is so inexhaustible that the

most talented can never acquire all the knowledge necessary to understand entirely even the most minute object. The strongest microscope cannot see all there is to see in a drop of water, and the wisest man can never learn all there is to shoemaking.

You can see by all this that the scientific use of our intellect is furthered by special knowledge only in the corresponding details. For this reason it does not satisfy us to have some logicians tell us how many kinds of concepts, judgments and conclusions are contained in our intellect. These are special details of logic. But the thing of first importance for the student of logic is the elucidation of the universal concept of truth, not the accumulation of special truths.

Special truths enlighten the intellect. But the understanding that all specialties are connected with one another by one monad or unit which is truth itself gives us a certain general enlightenment which certainly does not render any special research unnecessary, or take the place of it, but which may well serve as the foundation of all research, which may therefore be called a fundamental assistance.

I may remark in passing that the understanding of logical science is rendered especially difficult by the fact that the unpracticed understands all terms and concepts only in their narrow popular meaning, while the subject matter leads up continually into the widest fields.

When I speak of parts of the world, you must not think merely of geographical parts, but you must think farther until you arrive at the insight that stars and bricks, matter and force, in short all parts of the world are world parts.

The logical difficulty may be principally traced to the

lack of familiarity with the comprehensive categories. It will be clear to you that thinking and being, phenomenon and truth, etc., are conceptions of the widest scope. So you may have some difficulty in distinguishing between concepts of truth, and true concepts. And yet this is the same as making a distinction between the general class of herbs and its individual species. The mere intercourse with such comprehensive concepts as truth, existence, universe, is an excellent school of intellectual enlightenment.

Perhaps you may object to the deviation of a science devoted to the special study of the faculty of thought into such fields as existence or truth. But a logic confined to an analysis of the faculty of understanding would be narrow compared to one representing this faculty of understanding at work in real life. If the science of the eye were to treat only of the various parts of the eye without considering the things outside connected with its function, the light, the objects, in short, the vision of the eye, it would be more an anatomy of the eye than a general science of the eye. At all events a science which represents not alone the subjective faculty of vision, but also the living activity of the eye, the objective field of vision inseparable from the subjective faculty, is a far more comprehensive instruction, a higher enlightenment of the human brain.

In my opinion, logic should not so much treat of the analysis of the intellectual subject as of the purpose and object of the faculty of thought, its culture, which is not accomplished by the intellect itself, but by its connection with the world of truth, its interrelation with the universal existence.

What can a logic accomplish which divides thought

into analytical and synthetical thoughts, which speaks of inductive and deductive understanding and of a dozen other kinds, but which finally declines to meet the question of the relation of thought and understanding to truth, and fails to indicate what and where is divine truth and how we may arrive at it?

Pilate, the typical sceptic, shrugs his shoulders; the clergymen make a mystery of divine truth; the natural sciences care only for the true conceptions, but naught for the concept of truth; and then the special science of understanding, formal logic, tries to refer its task to philosophy or world wisdom.

I have already pointed out that the titles of the principal works on philosophy indicate that the whole world wisdom turns around the question: How can our brain be enlightened, how can it arrive at truth? The naturalists answer that this can be accomplished by special studies, and they are frequently opposed to philosophical research which makes general truth its main object, and belittle it. You will readily see that this is a mistake when you consider that, to illustrate, a machine or an organism as a whole is still something more than a mere sum of its parts.

No matter how well you may know each single part, yet you will not understand the whole machine or organism by this means alone. The universe is not an aggregation of unorganized parts, but a living process which must be understood not only in its parts but also as a whole. We may pass for the moment the question whether the Milky Way may be dissolved into stars, and whether the stars may become globes like our Earth which may develop plants, animals, and intelligent beings. The thing which is evident is that there is a pro-

cess of development, that all nature takes part in this movement, that the universe is a whole without end, composed of an infinite number of parts: a coming and going, an eternal transformation, which is always identical with itself and always the same world. What all this would be without our eyes and ears and without the intellect by means of which we use eyes and ears, what the world "in itself" is, that is a senseless and transcendental speculation.

The science of logic must deal only with the actual world which is inseparable from us and from our thoughts.

This world which we hear, see, smell, in which we live and breathe, is the world of truth or the true world. That is a fact. Must I prove this? And how is a fact proven? How do we prove that a peach is a delicious fruit? One goes and eats it. In the same way, you may now go and enjoy life, of course in a rational manner, and I am convinced that your own love of life will tell you that it is proof positive of the truth of the world, of its actuality.

But even in the midst of this actual world there is present an inconsistent element, a human race with a confused logic. This race has been led by various depressing and saddening circumstances to blacken the delicious truth of this world and to look for a transcendental truth in philosophical metaphysics or religious fantasmagorias, both of which are parts of the same stew. The philosophers of misery who make of the world of truth a vain shadow and a miserable vale of sorrow must needs be convinced by logic that the living world is the only true one.

Well, that is not so difficult. But there is a danger

of getting into a vicious circle of errors, imitating a snake biting its own tail. I have to prove logically that the world and truth are one and the same thing, before we have come to an agreement as to what is logical truth or true logic. Nevertheless, nature has assisted us. The logic of nature is the true logic by the help of which we can agree. Nothing more is required than a somewhat trained brain.

Take two men having a dispute about truth. One of them says it is one thing, the other that it is something else. So they are arguing about that which is. This last word is a form of the verb to be. Hence in arguing whether the remote nebula in the heavens is a brick or a star, a male or a female, one is always discussing some form of existence. All disputes turn around forms of existence, but existence itself is an undisputable truth.

Have I now still to prove that all existence is of the same category? Are there any stones that do not belong to the category of stones, or any kind of wood which is iron? What would become of reason and language, if such a thing were to be considered? And yet, much that is being said by opponents is of such a nature.

If I have succeeded in convincing you that the universe is the truth, there still remains the special question: What place shall we assign to fantastic ideas, error, and untruth? If the universe is the truth, then everything would be true, and hence it seems contradictory that error and untruth should have a place in truth or in the world. Of this more anon. I shall only point out in passing that untruth may without any contradiction belong to truth, just as weeds are a negation of herbs and still at the same time herbs.

In conclusion I call your attention to the eminently proletarian character of the science of truth. It gives to the working class the logical justification to renounce all clerical and mystic control and to look for salvation in this same world in which divine truth is living.

SEVENTH LETTER

The philologists distinguish carefully between a science of language and a science of languages. The latter teaches Egyptian, Assyrian, Hebrew, Greek, Latin, English, French, etc., while the former treats of the general characteristics common to all languages, of language itself.

Philosophical logic stands in the same relation to other sciences. The latter make us acquainted with special truths, while logic treats of truth in general. Those overintelligent people who claim that truth is merely a collective term for many truths do not see the woods for trees. Herder, Wilhelm von Humboldt, Max Müller, Steinthal, etc., have many things to say about the science of language of which the linguists with many languages never dream.

The science of language, aside from its many amenities, is also burdened with a difficult problem which it cannot solve without the help of logic. This problem is the point of differentiation where babbling and word-mongery cease and intelligent speech begins. For human speech has a certain meaning, and even the cries of the animals are not without sense. The sparrows know how to converse together, the rooster calls his

flock together, the dog knows how to announce that a stranger enters his master's home. Not alone the jokers, but serious thinkers speak of animal language, of a sign language, and maintain that speech does not alone consist of words, but also of inarticulate sounds and gestures. Poets endow even the storm, the thunder and the winds with speech. We wish to clear this confusion and ascertain what language is and where it begins. Languages, as is well known, have their beginning at the Tower of Babel. But in order to get close to language, we must look for a beginning of things either in God or in logic.

You know the old question: Which was first, the egg or the hen? But only a frivolous mind overlooks the serious side of this question and turns it into a mere joke. The question of beginning and end is an eminently logical one, and an unequivocal and clear answer to it would bring light not alone into the science of language, but also into the human brain.

Let us, therefore, follow up the problem of the "origin of language" a little farther. When our forefathers dealt with this question, they thought that a God had given speech to man or some genius had invented it. They thought of a beginning in time. The modern thinkers speculate more deeply. They have found out that language is not a fixed thing, but fluid, and has risen from low beginnings to a great perfection. We can no more find its temporal beginning by looking backward than we can see its end by looking ahead. For this reason we no longer look for its temporal, but for its ideological beginning. (Steinthal.) We should like to have a fixed mark where we might say: Up to this point that which resembles speech is only roaring, ex-

clamation, noise, and here is the beginning of the well articulated sound which deserves the name of "spoken word."

But there is still another factor which complicates the question further. Some say: It is not only the sound, the word, which constitutes speech, but the connected sentence; there must be sense and reason mixed with it. And this applies to the speaker and to the listener. Language presupposes reason.

Then, again, intellect is not a fixed thing, but a fluid process which develops in, from, and by speech. So it appears on one side as if the mind produces language, and on the other, as if language produces the mind, the reason. Where, then, is the beginning and end, and how can we bring order into these relations?

For us, who are studying the mind, not the language, the conclusion follows that it is not alone the word, but also the sound, the tone, the gesture, that all things have a meaning and speak a language. We find mind wherever we penetrate with our mind. Not alone language, but the world is connected with the mind, with the thought. But the connection with language may well serve as an illustration by which the connection of the cosmic mind may be demonstrated and the human brain illuminated.

Language shares the honor with the mind of being extolled, even in this sober century, if not to the skies, at least far out of the general connection of common things. For this reason, we must emphasize in the case of language as in that of the mind, that they exist, that they are part and parcel of the universal existence. At this point I wish to give you a vivid illustration of the unity of all being by pointing out that it is indubitably

established by the existence of one single name which is sufficient to designate *All*. True, language employs many names for this unity of the world, but that is a luxury. It is logical and necessary for the intellect to have *one* name for the *All*, because everything is not only infinitely variegated, but also infinitely one, or a unit. There are many different waters, but all water partakes of the general nature of water. Unless that nature is present, there is no water and the name of water does not apply. In the same way there are many kinds of oil; olive oil, kerosene oil, castor oil, etc., and each kind has its own subdivisions. But everything that has a common name is a unit.

Kindly observe, now, that the names of things form just such circles as the water does after being struck by a stone. Just as the name water, so the name oil indicates a ring. Then the name fluid constitutes another and wider ring which includes both oil and water. Then the name matter draws a still wider circle and includes solids as well as fluids, and finally the name being, or *All*, includes mind and matter, all matter and force, including heaven and hell, in one sole ring, in one unit.

On the basis of this universal unity, from which it becomes apparent that high and low, dry and fluid, in short the whole universe is made of the same substance, any fantastic thinker can prove that human and animal language is one, for otherwise one could not refer to both of them as language. He may then justly contend that speech, producing a sound, is a noise, that speech and noise are one. Speech is sound and sound speaks. In this way language would have no beginning and no end. In the last analysis it would be one with all things, and all things would be one with it. In this way the whole

universe would become an inexplicable, incomprehensible, inexpressible mixture of speech.

And yet it is an old story that man's insight grows the more he magnifies a thing. The more excessively we exaggerate a thing, the plainer become its boundaries. Language indeed requires one single name for *All*, but it also requires an infinite number of names in order to specify the parts of *All*. Inasmuch as language claims to be only a part of existence, this part has to be bounded, and you should in this connection remember the unlimited freedom of man in drawing such boundaries. Words are not merely empty words, but names of cosmic parts, of cosmic rings of undulation. Language, or rather the mind connected with language, wishes to bound the infinite by the help of language. The instinctive popular use of language does this in a haphazard way. Conscious science proceeds in an exact manner. Just as it has determined on the field of temperature what should be called hot and what warm, so it is at liberty on the field of sounds to determine where the name of language begins or ceases. The end of the discussion of language is therefore this: That which has already been done to horse power has not yet been done to the concept of language; it has been somewhat fixed by common usage, but only insufficiently. And so the moral of this tale is that the things of this world, even mind and language, are connected and intermingling undulations of the same stream, which has neither beginning nor end.

Let me say it once more clearly and without circumlocution: The logic which I teach and the thought which is its object are parts of the world, of the infinite, and every part being a piece of the infinite is likewise

infinite. Every part partakes of the nature of the infinite. Hence you must not expect that I should exhaust my infinite subject. I confine myself to the logical chapter of "the One and the Many." I simply wish to make it plain that without any contradiction the whole multiplicity of existence is of the same nature, and that this oneness of nature subdivides into manifold forms. The world is interconnected and this interconnection is subdivided into departments. It adds to the general enlightenment of the human brain to recognize this in regard to language, to mind, to all parts of the universe.

I repeat, then: One may think logically without having attended any lectures on logic, just as one may raise potatoes without a scientific knowledge of agriculture. It was possible to invent the thermometer, to clearly distinguish between sounds and colors, and a hundred other things, without having explained the faculty of discrimination. But the most abstract distinctions, such as beginning and end, word and meaning, body and soul, man and animal, matter and force, truth and error, presuppose for their explanation a logical explanation of their interconnection with our intellect.

EIGHTH LETTER

Dear Eugene:

Logic is going through the same experience as economics. The economists of the capitalist era talk solely of the means and ways by which profit and surplus value may be increased. They discuss only its relative size, its increase or decrease. But the thing itself, its origin and descent, is not discussed. It is passed in silence that

profit is extracted from labor power by paying less for a day's work than is produced by it. The gentlemen talk only of the "wealth of nations," but not of their poverty. And though this was due to ignorance in the beginning, it has later become sheer roguery.

The formal logicians are as ignorant as they are roguish, when they persist in discussing the intellect or thought in the traditional manner as if they were isolated things, while ignoring the necessary connection of the object of the logical study with the world of experiences. This interconnection leads to an explanation of truth and error, of sense and nonsense, of god and idols, and this is very inopportune for the professors. For this reason this unwelcome problem is handed over to the mystical departments, to metaphysics and religion, so that these venerable pillars of official wisdom may continue their services to the ruling classes.

I have already stated in my letters that the kernel of my discussion turns on the distinction between formal and what I call proletarian logic. The formal logicians treat the intellect as a thing "in itself," while I express in many different ways the fact that the intellect does not exist by itself, but is interconnected with all things and with the universe.

That intellect has indeed a transcendental leaning, which seeks vent by trying to exclude now music, now language, now itself, now some other fetich from the universal interrelation. But the science of the mind teaches that the brain watching its own activity finds out that all affirmations and negations, assertions and contradictions, belong to the one omnipotent world mechanism, which keeps them stored within itself and which is actually truth and life. Inasmuch as the human

brain is of the same nature as this automatic universal being and interconnected with it, logic is at the same time religion, metaphysics, and world wisdom.*

Formal logic teaches that our intellect must keep all things apart, but does not teach that it must also connect them. This logic is right in one way and yet does not arrive at the goal of a clear world philosophy, because it permits the transcendental leaning to exaggerate the differences and distinctions. It overlooks the paradoxical or dialectical nature of things which are not only separated but also connected. What must be understood is that, generally speaking, the classification of the universe is only a formality. We are, indeed, justified in distinguishing between above and below, right and left, beginning and end, gold and sheet metal, good and bad, but we must also enlighten ourselves as to how multiplicity can be a unity, the variable constant, and the constant variable. Formal logic has a wrong name. It is not formal, but transcendental. It shares the common prejudice that there are absolutely contradictory things or irreconcilable opposites, that there are essential differences which have no connection, no bridge between them, nothing in common. It teaches that contradictions cannot exist, and contradicts itself by clinging to the belief that there are irreconcilable contradictions. It teaches that a thing which contradicts itself is inconceivable, is not true, and thus reveals that it is not well informed on the formality of contradictions, on the true conciliation of contradictions, and on universal truth. Gold is not sheet iron, that is true enough. Whoever

* Religion denotes here as much as conception of the world and explanation of its last questions; and metaphysics stands here for everything conceivable, which meaning embraces more than the mere tangible.—EDITOR.

calls gold sheet metal or sheet metal gold, contradicts himself. In the actual world both things are separated. Yet they are not separated to such extent that gold and sheet iron do not partake of the same nature, of the nature of all metal. Gold and sheet iron are unlike metals, but they have the same metallic likeness. That like things are different and different things alike, that it is everywhere only a question of the degree of difference, of formal differences, this is overlooked by "formal" logic and by all who seek truth in any logical diagram or fetich, instead of in the eternal, omnipresent existence of the inseparable universe.

Our logic deals with truth or with the universe, which contains the most sublime gods and the meanest deviltry, in other words, which contains everything. In the world truth there is contained error, pretense, lies, just as death also lives in it. In other words, error, pretense, lies, death are only phenomena, formalities, passing trifles or things which are nothing compared to the one thing, that thing of all things, which is being, truth, life.

The understanding of the one living world truth is so greatly aggravated by the so-called contradictions which it contains. We find for instance that where one thing ends another begins. The end of the one is the beginning of another. Every beginning is at the same time an end. Both are contained in one another, and yet in our minds beginning and end are separated. We find the beginning and the end everywhere and nowhere. Or look into space. You do not see any boundary, and yet your vision reaches only a certain distance. Your vision is bounded and yet there is no boundary to be seen. Or look at life. Death soon arrives, and yet a

closer look shows that death is not really death, for "a new life arises from the ruins." The world proves to be the eternal life which does not know death. It is a contradiction to say that death lives, but this contradiction can be solved by the understanding that the difference between life and death, however great, is still a formal one, a difference which like all other differences is reduced to relative insignificance by the infinite cosmic life.

There exists a widely diffused school, if this term may be applied to the unschooled, that preaches patience in the matter of the systematization of our thoughts or the enlightenment of our intellect, and though it no longer hopes for a mysterious revelation, yet founds its faith on natural science which has explained so many things to us and which is finally supposed to throw light on the "last questions of all knowledge." But I can easily convince you that the new countries, plants, animals, Esquimaux, that may be discovered on polar expeditions, or the inventions which Edison may perhaps make on the field of electricity, or the experiences which future astronomers may gather in regard to suns, moons, and comets, while they may add valuable contributions to science and life, will yet do little toward a correct general employment of our intellect or to a universal enlightenment of the human brain. On the other hand, an enlightenment as to the nature and meaning of contradictions will spread light to the remotest corners of imagination, into the heavens and eternity, into the existence of the whole, the unity and difference of all things

The most drastic, and perhaps the most instructive, illustration of the correct meaning of contradictions is

given by the contrast between truth and untruth. These two poles are perhaps more widely separated than the North Pole and the South Pole, and yet they are as intimately connected as these two. The commonplace logic will hardly listen to the demonstration of the unity of such apparently wide opposites as truth and untruth. Therefore you will pardon me, if I illustrate this example by others, for instance by the contrast between day and night. Take it that the day lasts twelve hours and the night likewise. Day and night are opposites. Where there is day cannot be any night, and yet day and night constitute one single day of twenty-four hours, in which they both dwell harmoniously. It is the same with truth and untruth. The world is the truth, and error, pretense, and lies are embodied in it, are parts of the actual world, just as night is a part of day without confusing logic. We may honestly speak of genuine pretense and true lies, without any contradiction. Just as unreason has still some reason left, so untruth still lives inevitably in truth, because the latter is all-embracing, is the universe.

“Contradictions cannot exist.” But confused brains full of contradictions nevertheless exist. Knives without handles and blades, two mountains without a valley between them, and other nonsense, exist as a phrase. There are two kinds of contradictions: Senseless ones and very sensible ones. Yea, the whole world* is an infinite and inexhaustible contradiction, which contains innumerable sensible statements and misstatements, which never disappear and yet may be solved harmoniously by the help of time and reason.

From this it follows that the formal criteria of truth

*When we consider its many parts as such.—EDITOR.

which are on everybody's tongue, such as the identity of thought with its object, and the absence of all contradictions, do not furnish a basis at all for the analysis of truth and cannot define it, except in an ignorant and roguish way.

Since the prophet Daniel scattered ashes in the temple and unmasked the servants of Baal, other idol worshippers have continued to stimulate the people to daily sacrifices, in order to steal the victuals at night. This continual rascality and its repeated exposure has blunted the desire of the people to serve truth, so that a great many have become frivolous and indifferent. This rascally logic, not to mention ignorance, encourages the frivolous and indifferent in their godless departure from truth. In the pulpit and in the garb of science it preaches the vanity and inadequacy of research. This is preached not as a dogma, but as a logical science, and thus the senseless contradiction is committed of trying to prove truly by the help of the intellect that the intellect is too limited to grasp the truth and prove it.

In its historical course logical research once arrived at such a result in good faith. This happened in the famous "Critique of Reason" of Immanuel Kant. Our shrewd friends of darkness now seek to utilize the fame of this work, to which it is entitled on account of its great contribution toward the elucidation of cosmic truth, for the purpose of preventing on the strength of it a progress of enlightenment beyond the standpoint of Kant.

By the way, Kant has demonstrated that the truth in general is as much a matter of experience as the brain with which we search for it. He has shown beyond a doubt that our eyes and ears are inseparably connected

with our mind and with the whole cosmic truth. But the persistent spirit of transcendentalism, or what is the same thing, the traditional belief in the transcendental spirit, has led him to grant a mysterious existence alongside of or above the human mind, alongside of or above the cosmic truth, to an incomprehensible monster spirit and to a fantastical hyper-truth.

The Kantian critique of reason did not understand the universality of truth. It still affirmed the existence of two worlds and two truths without any unity. And as it is the curse of the evil deed to generate more evil, it produced two intellects. (1) The poor little subservient intellect of man, and (2) the enormous and abnormal intellect of the *Lord*, who is supposed to understand the incomprehensible and to untie the most senseless contradictions like so many knots.

The truth which is the universe, the cosmic or universal truth, will reveal to you the absurdity of abnormal humility which is contained in the dualistic doctrine of the two minds. Of course, the philosopher Kant had a greater intellect than Peter Simple. But nevertheless all intellects partake of the nature of the general intellect, and no intellect can step above or below this general nature without losing sense or reason. One cannot speak of another, higher, faculty of thought than that acquired by man through experience without dropping from logic to absurdity. No doubt the animal world possesses something similar to intellect. No doubt, also, the animal mind may be separated from the human mind by some special name, for instance "instinct." No doubt, furthermore, our reason is strengthened by culture from generation to generation. But that anywhere and at any time there should come into existence a faculty of

thought which would stand outside of the cosmic interconnection, that is an absurd conception and a senseless thing. Just as necessarily as all water has one and the same nature, that of being wet, just so necessarily every intelligence and every thought partakes of the general nature of thought and must logically be a part, a particular part, of the one universal and empirical world.

NINTH LETTER

Repetition, my dear Eugene, is the mother of all study.

Logic aims to teach you the proper use of the intellect, not only in this or that branch of study, but in the general branch of truth. Its result is the following precept: In all things always remember the universal interrelation.

In order to illustrate this statement a little, let me point out that in the period of scholasticism thinking was practiced without any interconnection with the rest of the world, merely by brown study. The present age of natural sciences then cultivated a better method. But the method of the natural sciences has not succeeded so far in being applied to the field of law, morals, politics, psychology, and philosophy, because the logical understanding of the total interrelation of the indivisible world truth was lacking, because the concept of truth was enveloped in darkness, and because the privileged classes have a great interest in maintaining darkness.

For this reason, the true method of reasoning still requires many explanations. The socialist, for instance, is

charged with inciting the people, with promising more than he can keep and with sowing strife in the hearts of men. Those who make this charge in the commonplace sense, tear two things, viz., peace and strife, out of their due connection. As a matter of fact, peace and strife must always dwell together. A nation whose peace were not intermingled with a certain strife, would be a nation of sluggards. Thanks to the strife in their breasts, the nations are progressive and stirring. Motion is the essence of the world, and national motion is inconceivable without the striving of men. For the sake of development and culture, nations must always demand more than they can immediately attain. On the other hand, striving of this sort is not sufficient. One must not demand more than one can obtain, nor promise more than one can give. For this reason the logical socialist must know that even in the future society the trees will not grow into the clouds, and that the peace for which we hope and strive will always be mixed with strife. The music of the future, although more harmonious than the music of the present, will nevertheless be eternally marred by disharmony. There is nothing perfect in the world, because only the whole universe is perfect, because the universe alone is perfectness itself.

Eternal peace, as the warriors may justly claim, is an illusion, so long as we think of peace in a transcendental way and as being separated from strife. But the sons of the war god who would like to continue the thunder of cannons and the rattle of sabers eternally, are no less the victims of illusion, if not something worse. Eternal is only war in peace and peace in war, although that may seem senseless to the logicians of the old school. Thus even the inevitable war will become more peaceful

and humane in the course of time. The barbarian form of war, of which the Prussians are masters, is not destined to last forever, unless we speak of the illogical eternity of the preacher which opens its doors by leaving the temporal world. In defending the social war, I wish to have it understood that neither the conceptions nor the things called war and peace are separated by a Chinese wall.

Everything is interconnected and interdependent. It is true that strife and animosities may be exaggerated, and so may peace. But whatever blame attaches to this, refers only to the exaggeration. It is not the animosity, but the excessive animosity which deserves censure. By recognizing the logical interconnection between peace and strife, the dispute of the parties is rendered saner. There is then no longer a question of a yawning chasm between satisfaction and dissatisfaction, but of something about which an agreement is possible, viz., how much there is of either.

As peace and war in the human breast, so all variety intermingles in the cosmic unit. In the novel "*Homo Sum*," by Ebers, the monk Paulus, who tasted the delights of the preliminary celestial ecstasy when castigating his body, says: "I truly believe that it is just as difficult on this globe to find pain without joy as joy without pain." And Till Eulenspiegel, that type of a practical joker, showed an understanding of dialectics when he lightened the difficulty of ascending a mountain by the reflection that the descent on the other side would be so much easier. Logic is no more senseless in teaching that all things, even the most opposite, are of the same substance than it is in showing that night belongs to day and weeds to herbs.

In order that these petty illustrations may not confuse your mind, it should be remembered that the essential point is the elucidation of the great contradiction between mind and matter, between thinking and being, which includes all petty contradictions.

In order to think in accordance with logical consistency, you must not regard a thing as something independent, but consider everything as fluid particles of the same substance, which is the thing of all things, the world, the truth, and life.

Our logic is therefore the science of truth. This truth is neither above nor below, neither in Jerusalem nor in Jericho, neither in the spirit nor in the flesh, but everywhere.

Our logic is the science of understanding. It teaches that you must not search for understanding by cudgeling your brain, but only in connection with experience, with the interrelation of things.

Since man in his experience also meets errors, science was dominated for centuries by the question whether truth and experience are not two different things, whether all our experience is only an illusion of our senses. Cartesius replied to this: "No; the belief in a perfect, true being cannot admit of such a delusion." By substituting the concept of truth for the concept of God, we are certain that the world of experience is not a ghost, but the most actual reality.

Although the great Kant called the cosmic truth a phenomenon, because he could not divest his mind of transcendental faith, of the faith in a transcendental truth, still we know today that all distinctions which are ever made constitute but a nibbling at the universal unit. As necessarily as all variety in baking produces bakery

wares, just as necessarily heaven and earth, and everything connected with them, are parts of the indivisible truth which is also called nature, cosmos, universe, God, and experience. Language gives to its darling truth many different pet names, just as a happy mother calls her heart's treasure by a thousand endearing terms.

Feuerbach reasons in this fashion: "If God is not a personal being different from nature and man, then he is an entirely superfluous being. . . . The use of the word God which is always combined with the conception of a separate being, is a disturbing and confusing abuse. Why do you want to be a theist, if you are a naturalist, or a naturalist if you are a theist? Away with this contradiction! Where God is confounded with nature, or nature with God, there is neither God nor nature, but a mystical amphibious hermaphrodite."

Feuerbach is right. The name of God is much abused. But truth is also blasphemed by negation and frivolousness. The sober understanding that God, truth, nature, are various names for the same thing permits us to play with them without despairing of the matter. Indeed, this play of words serves to make the subject clear.

But logic demands that we recognize truth as the absolute, as the power, the force, and the glory, which comprises all logical and illogical distinctions, together with the things to be distinguished, even the faculty of distinguishing itself.

Such an understanding of the absolute, such world wisdom, will not make you conceited, because it makes you conscious of the fact that your understanding has grasped celestial truth which at the same time is terrestrial, only in a very general way. You possess nothing

ing but a definition of truth. And without denying that definitions are valuable and instructive, I, at the same time, point out that you know very little about astronomy when you know that it is the science of the stars. No matter, therefore, how clearly I may have defined truth, we require for its complete understanding all the details of science, and that is too much for me, for you, and for any individual human being.

Just as our vision never exhausts the visible, because the eye sees an object but does not fully penetrate it, just so can the intellect never fully understand and fathom the absolute all, the truth, or God. But we can understand and fathom individual truths, parts of the universal truth. What understanding grasps is not the truth itself, but yet it is true understanding.

TENTH LETTER •

Dear Eugene:

My previous lectures instructed you as to the very trivial fact that the thought is a part of the world. In proceeding from the part to the whole, I passed logically from the mouth of the river to its source. The universe is the maternal womb of the intellect as of all things.

It occurs to me that you or some teacher of logic might accuse my letters of lack of logic. It may seem that these lectures fail to present the subject matter in a strictly systematized form. You will, please, excuse this in part with the fact that they appear in the form of letters. This form demands that the contents should be logically arranged and rounded off in each letter. It should furthermore serve as an excuse for any defect,

that my subject is not a finished one, not perfectly elaborated by others before me. I am here not merely a lecturer, but also an explorer on a field which, though much investigated, yet is still rather obscure.

The conclusion of my last letter explained that the use of the term God for the universe has much to recommend it and much to disqualify it. But it is easily apparent that the universe with its absolute qualities is closely related to that infinite being of whom Jakob Böhme, the philosophical shoemaker, said: "He is neither the light nor the darkness, neither love nor anger, but the eternal One. . . Hence all forces are merely one sole force."

That nothing exists outside of the universe, that everything is contained in the All, that the All, with all real and imagined beings, is everything, that it is neither sweet nor sour, neither great nor small, but just everything and all, this statement is as obvious as the often and long repeated statement of identity: A equals A .

The All is omnipotent, omnipresent, all-wise. This last term might be questioned, since the universe is not a dummy with a monster head and giant brain. For this very reason it was considered inappropriate to apply the name of God to the universe, because that creates the impression of a personal being. The All thinks only by means of human brains, and for this reason omniscience cannot be anything but common human knowledge. Of course, you, I, and every other man, are very limited in our knowledge. But still we may indulge in the hope that the things which we do not know are known by other men or will be discovered by future generations, so that the collective human mind will know everything that is knowable. We cannot see everything

that is visible; there are animals that can see even better than we can. But since even the most intelligent animal is supposed to lack the highest degree of intelligence, reason and science, there is no one who knows anything except the human race. Mankind is omniscient. But since all our science is derived only from the world, mankind is only the formal bearer of intelligence, and it belongs to the fountain of all things, to eternal nature. Our wisdom is the wisdom of nature, is world wisdom. Although there may be inhabitants of the moon and of other stars who may know things which are unknown to us, still that is in the first place a mere speculation of little value, and in the second place universal omniscience or the omniscient universe would not in the least be affected thereby. It is a reasonable use of the language to regard human wisdom as the only and omniscient wisdom, just as all natural and wet water is called water without any further modification. I believe in the statement of Protagoras: "Man is the measure of all things." Whoever uses a different measure, uses a superhuman, transcendental measure.*

Hence, when I call the cosmic essence of all existence omnipotent, you will not think of a senseless magic power which forges knives without handles and blades, nor will you read any transcendental meaning into my use of the term omniscience.

Omniscience belongs obviously under the head of logic, because the organ of science and wisdom is the object of the study of logic. And it must now be stated that the human mind does not only exceed the animal mind by far, but is also the *non plus ultra* of all minds. But it must be retained that this mind can only be whatever

*Please note the additional explanation on page 77.—EDITOR.

it is in connection with the divine universe which I may also be permitted to call wordly deity. This name is fitting because it is a means of understanding that in the first place no monster mind rules the world, and in the second place the natural universe is not a mere sum of all things, but truth and life.

Of course, the identification of the universe with the religious God is only a comparison, and comparisons are lame. Still we may compare the sun with an eternal lamp or the moon with a candle, or the German prime minister with a butler.

Logic shall teach you that everything which may be distinguished by the faculty of understanding is of the same kind, everything is of common clay, but the whole is sublimely elevated above all that is commonplace. Mere frivolous atheism, as created by the free-thinkers, is not sufficient. A bare denial of God always creates some other idol worship. The positive understanding of the divine world truth is an indispensable requirement for the radical extermination of all idol worship.

Logic must begin with the sublime, infinite, absolute. All logical, consistent or interconnected thinking must take its departure from it. The so-called scientific research after temporal causes, after the egg from which the chicken was hatched, after the hen from which the egg came, after the kindred organisms which developed the hen by natural selection and adaption according to Darwin, this is a very valuable research without which we can never understand the world process. But nevertheless, such research must not satisfy the thinking man. Logic demands from everybody that he or she should search for the highest, for the cause of all causes. Whoever feels the desire to bring logical order into his con-

sciousness, must know that the finite and infinite, the relative and the absolute, the special truths and the one general truth, are contained in one another.

Logical thought as demanded by science means nothing but to be aware of the final cause, the absolute foundation of all thought. This foundation is the universe, an attribute of which is the external and internal human head. The thousand year old dispute between the materialists and the idealists turns on the question whether the spirit is material or the world spiritual. Our answer is plain and clear: They both belong together, they together make up the one thing, the thing of all things. Mind and matter are two attributes of the same substance. They may be compared the same as fish and flesh, the former being called very appropriately by some African tribes "water flesh." In this way, matter and mind are two kinds of meat of a different and yet of the same nature.

I remember reading in a satirical paper the question: "What is a gentleman? Answer: A gentleman is a loafer with money, and a loafer is a gentleman without money." Just as these two types of men are essentially alike and differ only in the small matter of money, so you should remember that there are no essential differences, that all differences are merely matters of attributes and qualities of the same absolute world substance. To distinguish correctly and logically, that is the point which logic is aiming to teach us. To make distinctions is the function which is also called perceiving, knowing, understanding, comprehending. When you consider that this function is innate in man, and that man together with his faculty of understanding is innate in nature, then you recognize all distinctions

and the distinguished objects as attributes of the undistinguished One, of the absolute, compared to which all things are only relative things, in other words, attributes.

I am endeavoring to make clear to you that logical thinking requires the awakening of the consciousness of the one supreme general nature. And you must not think of this sum of all existence in the stupid way in which people used to think of the animal kingdom before Darwin, but regard the world as a living organic unit, from which the faculty of understanding has blossomed the same as all other things. In the logic of the narrow-minded, all animal species are widely separated, without any living interconnection, while Darwin has demonstrated the uniform process, the intermingling life in multiform creation. The illustration of this famous zoologist of the transition from one species to another may serve as an example of the logical transitions in the world process, in which all differences are but undulations. All our classifications must always remember the undivided basis on which they are resting.

We have shown that the intellect divides the universal nature, classifies and analyzes it, and we have learned of the universal nature that it not only furnishes to the intellect the material for its work, but also that the world comprises within its general process the intellectual process, that the intellectual movement is a specialization of the natural movement.

The world is not only the object, but also the subject of understanding, it understands, it dissects its own multiplicity by means of the human intellect. Our wisdom is world wisdom in a two-fold sense: The world is that which is being understood, classified, analyzed, and at the

same time it is that which, by the help of our intellect, practices understanding, classification, etc. When I call the human mind the cosmic mind, the mind of the supreme being, I wish to have it understood that there is nothing mysterious about this, that I merely intend to show that thought or intelligence can only operate in the universal cosmic interconnection, that it is not an abnormal and transcendental thing, but a thing like all other things.

You must not conceive of the spirit as the producer of truth, as a little god, but only as a means. The true god, the divine truth, has our intellect for an attribute. The latter does not produce truth, but only the understanding of truth. It produces only pictures of truth which are all more or less perfect. Of course, it is not at all immaterial whether we produce a more or less faithful, a true or a false picture of truth, but still this is, at present and for us here, a secondary matter. The main thing is to know that truth, or nature, is far above all pictures, and still consists of parts, of forms, which together constitute the whole.

ELEVENTH LETTER

Dear Eugene:

Johannes Scherr relates in the "Gartenlaube," a German family paper, in an article entitled "Mahomet and His Work," that insane doctrinarians are searching for people without religion. This has not succeeded, it is said, although the spark of religious feeling is glowing very dimly in peoples that are close to the animal. But nevertheless, he continues, the expressions of religious feeling mark the boundary line where the

beast ceases and man begins. For just as in the higher stages of civilization religion means the consciousness of the finite of being one with the infinite, so in the lower stages of civilization the indefinite impulse is felt by man to connect his special nature with the universal nature and bring them into harmony. This is idealism, the idealistic need. It is obvious that, and why, the people have always and everywhere sought and found satisfaction for their idealistic longings in religion. But, adds the shrewd observer, I must remark that I do not refer to the shifting population when I say "people," for sad to relate, that population is torn away from all connection with natural conditions. I refer to the "settled, the permanent, the true people."

This quotation shows that a champion of the "true people" is in conflict with true logic. In dividing a population into shifting and settled people, one should retain as a basis the logical consciousness that all classes of people are embraced by one class; furthermore, that human, monkey, ant, and other nations are parts of the one and the same nation; until finally man and animal, real and imaginary, with all religious and godless things, are ultimately fused in the world unit and can never be "torn away from all connection with natural conditions."

All distinctions must logically be based on the consciousness of the absolute and universal unity, of the interconnection of all things. For this reason some pious people, with their God in whom everything is living and has its being, have more logic than some freethinkers of the class of Johannes Scherr who have no coherence in their method of thought. The faith-

ful think more logically than the narrowly skeptical, for they begin and end with God. But still they cannot think quite logically, because they cannot establish any logical connection between their eternally perfect Lord and evil, the devil, disease, misery, sin, in short all the sufferings and vanities here below.

The unit of nature, the infinite, is the quintessence of logic. Neither natural science in the narrow sense of the word, nor metaphysics, nor formal logic, can give any clue as to the nature of this thing of things. This can be done only by a science of understanding which recognizes matter and mind and all opposites and contradictions as formalities of the universe. How can a man who is out of touch with the mass of the shifting population feel that he is one with the universe? Whoever regards any special class as the true people, has no understanding either of the common people or of the absolute universe.

Proletarian logic teaches not only the equality of all human beings, but universal equality. And mark well, this universal equality does not conflict with variety any more than a variety of pots and jugs conflicts with the unity of vessels, or the manifold forms of bretzels and rolls with the unity of bakery ware.

The enemies of democratic development, in attacking the idea of freedom and equality, point to the manifoldness of nature, the individual differences of men, the distinctions between weak and strong, wise and fools, men and women, and consider it tyranny to attempt to equalize that which nature has made different. They cannot understand that like things may be different and different things alike. They are blinded by their class logic which sees only the differ-

ences, but not the unity, not the transfusion of all classes.

Class logic teaches that contradictory things cannot exist. According to it, a thing cannot be genuine and false at the same time. This class logic has a narrow conception of existence. It has only observed that there are many different things in nature, but has overlooked the fact that all these things have also a general nature. We, on the other hand, recognize that every thing, every person, is a part of the infinite world and partakes of its general nature, is eternal and perishable, true and untrue, great and small, one sided and manyfold, in short contradictory.

Before and after Socrates, philosophy and religion have searched for the genuine, right, good, true, and beautiful, but have reached no harmonious results. But it cannot be denied that in the course of the centuries the problem has become clearer and clearer. The great names of Pythagoras, Socrates, Plato, Aristotle, Bacon, Cartesius, Spinoza, Leibniz, Kant, Hegel, are milestones on the highway of this progress. The evolution is apparent, but the interrelation between the intellectual and physical, and especially between intellectual and economic evolution, is much ignored. The bridge between mind and body was not found, and philosophical evolution has been regarded up to our day as a purely mental process accomplished by one or two dozen of famous brains. I wish to point out to you now, that proletarian logic is the continuation of the preceding research after the genuine, true, good, and beautiful. It teaches how to conceive of these ideals logically, and it has not so much proceeded from any one

talented brain, but is rather the product of the entire cosmic process.

Philosophical brains have developed the science of logical thought only to the extent that the material development of the world has stimulated them to do so. You must regard the human brains only as secondary levers of the universal lever which is not only genuine, true, good, and beautiful, but truth, goodness, and beauty itself, or the world and the absolute.

The understanding of the absolute which is called "good Lord," and then again "the bad world," in other words the selfsufficient cosmos, is very inconvenient to the wisdom of the professors, and they are attempting to assign it to a special study which they call "metaphysics." This division of labor is not introduced for the purpose of making research more productive, but of surrounding this study by mysterious darkness. The professors who lecture to the young people on formal logic set aside the ancient research after the true, the good, the beautiful, and try to place these ideals outside of the light of science in order to be able to preserve them unchanged in the tabernacle of faith.

This charge may seem unjust, because the learned gentlemen reserved a corner for the true, the good, and the beautiful in their metaphysical department. But there is something peculiar about this. The great Kant has asked the plain question: "Is metaphysics practicable as a science?" Answer: No! The transcendental truth, etc., sought by metaphysics, and named God, freedom, immortality in Christian language, cannot be found by any reason. But being a

child of his time, the great philosopher makes a small concession to the transcendental.

He teaches: Although transcendental truth cannot be located scientifically, still the religious faith in its existence is wholesome. We, in our time, think more soberly about this theory of salvation and accept the elimination of all transcendentalism from science. While the spokesmen of the "true people" would like to hide their exalted truth, freedom, and immortality behind the curtains of temples, we throw the full daylight of logic on the absolute truth, goodness, and beauty of the material world.

Logic as the science of correct thought cannot be restricted to any one object, it cannot exclude any object, whether terrestrial or heavenly, from its sphere. The great lights of present day learning do not wish to subordinate the intellect as the object of the logical department, and absolute truth as the object of the metaphysical department, to one another, but to co-ordinate them side by side.

But two co-ordinated things which are not subordinated to a third higher thing lack logic, and the brain which is satisfied by such a condition suffers from disorder. Logical truth must inevitably be a part of absolute truth, and it is our duty to remove absolute truth from the field of metaphysics, of transcendentalism, and to transfer it to the sober world which forms an inseparable unit with the human mind.

So much for the proletarian duty to continue the research after the true, the good, and the beautiful which was the object of the philosophers before and after Socrates. But remember that I am referring only to the truly good, beautiful, etc., which is contained in

the universal truth of all true specifications. The question of the ethically good, the esthetically beautiful and the absolutely perfect is as necessarily contained in the question of the universal truth as red, blue, and green in the rainbow, of course only in an abstract sense.

Our logic which has for its object the truth of the universe, is the science of the understanding of the universe, a science of universal understanding or conception of the world. It teaches that the interrelation of all things is truth and life, is the genuine, right, good, and beautiful. All the sublime moving the heart of man, all the sweet stirring his breast, is the universal nature or the universe. But the vexing question still remains: What about the negative, the ugly, the evil, what about error, pretense, standstill, disease, death, and the devil?

True, the world is vain, evil, ugly. But these are merely accidental phenomena, only forms and appendages of the world. Its eternity, truth, goodness, beauty, is substantial, existing, positive. Its negative is like the darkness which serves to make the light more brilliant, so that it may overcome the dark and shine so much more brightly.

The spokesmen of the ruling classes are not open for such a sublime optimism, because they have the pessimistic duty of perpetuating misery and servitude.

TWELFTH LETTER

Logic, the science of correct thought, demands in

the first place true, or in other words, reasonable thought. Logic deals with reason and truth.

These two things have been endowed with a mysterious nature, while they obviously belong to the entire universe and its tangible nature. Reason and truth are not separated from the other things, are not things in themselves. There is no such thing. Philosophers who have looked for them in the depths of the human brain with their hands over their eyes and engaged in brown study, were on the wrong road. Proletarian logic differs from conventional logic in that it does not look for reason and truth behind the curtains of temples, nor in the brains of the learned, but it discovers them in the actual interconnection of all things and processes of nature.

Preachers, professors, judges, and politicians are the leaders of "the wise men of Gotham," and since we have all passed our youth among them, we find it difficult to get rid of their confused logic.

We owe much of our better insight to the famous philosophers. These men had many an eccentric notion, but on the whole they were reasonable fellows who followed the doctrine of the unreliability of the senses and the faith in the hidden truth and reason more in a theoretical than in a practical way. In practice they operated with open eyes and ears. Thus correct logic, although confused by queer notions, has been handed down to us from generation to generation. Preachers, professors, judges, and politicians cling to the confused notions, while we take the liberty to discard them.

Now we recognize not only that reason and truth are connected with the world, but also that the uni-

verse is the supreme reason and truth, is that being which religion and philosophy have long been looking for, the most perfect being, which Plato called the true, good and beautiful, Kant God, freedom, and immortality, and Hegel the absolute.

If he is an atheist who denies that perfection can be found in any individual, then I am an atheist. And if he is a believer in God who has the faith in the "most perfect being" with which not alone the theologists, but also Cartesius and Spinoza have occupied themselves so much, then I am one of the true children of God.

The abuse of sublime feelings and exalted ideas has filled many hearts with disgust, so that they care no longer for any unctuous sermons. The mere flavor of religion is odious to them. Nevertheless I assure you that we shall never get rid of idol worship, unless we understand the supreme being, reason or truth, in its true nature.

"Understand" is a mysterious word. To bring light into the mystery of understanding by a clear theory of understanding, is an integral part of the science of thought, of logic.

Permit me to compare the faculty of understanding with a photographic apparatus, by the help of which you strive to obtain a picture of the cosmic truth. Then you will see at a glance that in this way we can obtain but a dim picture of the whole. The object appears boundless, too infinitely great and sublime to permit of copying. And yet we can approach it. Although we cannot get a true picture of universal truth, yet we can obtain clear pictures of individual truths, in other words, we can picture the infinite in its

parts. By the help of your intellect, you can grasp the infinite by means of limitation.

Absolute truth appears to us in relative phenomena. The perfect being is composed of imperfect parts. A "wise man of Gotham" may regard this as a senseless contradiction. But we can separate the arms, legs, head, and trunk from one another, and so separated they will be mere parts of a corpse, while connected they certainly possess the chance of vitality. Life is composed of the dead, the most perfect being is composed of imperfect parts. In the universal truth everything is contained. It is the perfect being, it includes the whole existence, even the imperfect. The false, the ugly, the evil, the nasty are involved in the true, the good, the beautiful. The universal existence is the absolute truth, the whole is composed of relativities, of parts, of phenomena. Our understanding, our instrument of thought, is likewise an imperfect part of the perfect being. Our intellect produces only a dim, imperfect picture of the absolute, but it reproduces true pictures of its parts, although pictures only.

There are good and bad, adequate and inadequate, true and false thoughts and understanding. But there are no absolutely true thoughts. All our conceptions and ideas are imperfect pictures of the most perfect being which is inexhaustible in great things as in small things, as a whole and in parts. Every part of nature is a natural part of the infinite.

I repeat: All parts or things of this world have, apart from their imperfect nature as parts, also the world nature of the absolute being. They are imperfect perfections. Our intellect is no exception. The human mind is the only mind having the name of reason, and is

the most perfect reason which can possibly exist. In the same way, the water of this earth is the non plus ultra of all water. The belief in another and different mind, in a monster mind, belongs to the same transcendental category as the belief in a celestial river without the nature of water flowing around the castle of Zion. Even the most perfect mind is nothing else, and cannot be anything else, but an imperfect part of the absolute world being.

The first thing a student of correct thought has to learn is to distinguish true thought from false thought, and for this purpose he must know above all that distinction must not be exaggerated. All differences can only be relative. The bad and the good pictures belong to the same family, and all families finally belong to the absolute, are individuals of the universe.

For the purpose of distinguishing true thoughts from false, it should be remembered that the true thought is only a part of the truth, a part which does not exaggerate its own importance, but subordinates itself to the absolute.

The following illustration may explain this. Although astronomy teaches that the earth revolves daily around its axis and that the sun is standing still, it nevertheless knows that the fixed state of the sun is only a relative truth, so that from a higher point of view both the earth and the sun are revolving. The consciousness of its relative truth alone makes the statement of the sun's standstill true. Again, when the farmer sees that the earth is fixed and that the sun is moving every day from East to West, he is mistaken only so far as he regards his standpoint as the whole truth, his farmers' knowledge for absolute knowl-

edge. The knowledge of the absolute alone enables you to distinguish correctly between truth and error. Whoever sees the sun turning around the earth with the consciousness that this revolution is but a partial truth is not in error, but sees truly. The knowledge of the absolute truth clears up error and instructs us as to the method of correct thought. This thought makes us apt, humble, and tolerant in judging.

The "wisest of men" was very proud of his modesty in knowing that he knew nothing. His example may well be recommended to-day. Although we have learned a great deal, we know very little compared to the inexhaustible fountain of all wisdom, good mother nature. We learn every day, but we never learn all there is to learn. What was to the credit of Socrates, was his firm faith in the truth, his conviction of its existence, and his faith in the mission of the human intellect to search for truth.

On the contrary, the sophists confused and disputed everything. They frivolously flouted all truth and research. This same frivolousness now relies upon Kant who, misled by the prejudice of his time, removed truth to a transcendental world and therefore deprecatingly called our actual world the "world of phenomena." In distinction from him, our logic teaches that the phenomena of this world without exception are parts of the one truth, and that the true art of understanding consists in studying the parts.

The doctrine of the sophists to the effect that everything may be denied and disputed has a certain similarity with ours in that we declare that the universe is the truth and all parts of it true parts, that smoke and fog, reason and imagination, dreams and realities, sub-

ject and object, are true parts of the world. They are not the whole truth, but still true. For this reason it is well to call your attention to the difference between the sophistical and the logical method of thought. The contemporaries of Socrates are still alive to-day. They are teaching in the name of God and believe in nothing, while to us truth, every day naked and sober truth, is sacred.

THIRTEENTH LETTER

In his "Three Books On The Soul," Aristotle discussed at length the question whether the human soul has five senses or one. The commentator, J. H. von Kirchmann, the publisher of the "Philosophical Library," remarks in his footnote 172 that man has six senses. He divides feeling into pure and active feeling. According to this, the phrase of the five senses belongs to the old iron the same as that of the four elements. Now neither you, nor I, nor any reader should worry about the question whether all sensation may be summed up in the one sense of feeling, whether there are five senses according to Aristotle, or six according to Kirchmann, or whether there is even a seventh sense for the transcendental, the organ of which, as some optimists hope, will gradually be developed with the growing perfection of man. We are concerned in this matter only so far as it is connected with the cardinal question, whether the world is only one thing or a mere collection of an infinite number of disconnected things; whether the so-called things are independent subjects

and objects, or whether they are only predicates of the one world subject.

Looking through the window I see the river, the street, the bridge, houses, and trees. Everything is a thing in itself and yet is connected inseparably with all others. The qualities of the world are regarded by the intellect as subjects; but the intelligent subject should also know that its actions, its distinguishing and understanding, are formalities, a formal dismemberment of the absolute, which in spite of all division always remains the undivided whole.

In order to master this method of thought, you must understand above all that the things are only so-called things, but are in reality qualities of the universe, in other words, relative things or predicates of the absolute. You will then understand, that our thought has a right to make one thing as well as six of a chair, its back, its seat, and its four legs. You will recognize that the five senses of Aristotle are not an eternal truth, but a classification, which is eternally variable. Distinguishing means classifying.

I know very well that I am making a bold statement here, and that it is not easy to justify it. For this reason you must not expect that I can make my meaning clear in a few sentences. It is not only the general prejudice which prevents this by making a most mysterious and miraculous thing of the intellectual function, but also the fact that this thing is still very obscure, although it has become clearer and clearer in the course of time.

The freethinking pastor Hironymi writes on this point: "The most prominent naturalists of the present, such as Dubois-Reymond, who are at the same time

thinkers, admit that they do not know what feeling, life, consciousness, are, and how they arise. And this ignorance is far more valuable for truth and religion than the alleged knowledge. Let us, therefore, continue in the devotion with which we have hitherto admired the universe without understanding it. The higher existence, the consciousness, has not been explained, it has remained a miracle, the only lasting, absolute, miracle."

Thus speaks the preacher who is a know-nothing by nature and makes a business of admiring and wondering, while we are interested in understanding and knowing. We wish to fathom the mystery, and hence I may write still more letters on logic and you may study some more.

I shall try to demonstrate by a trivial example, how it is that understanding or distinguishing is based on classification.

Take it that you awake at early dawn and notice in a corner of your bed room something uncouth and moving which you cannot clearly distinguish. To know that a phenomenon appears is not enough because the term phenomenon applies to everything, natural and unnatural things, good and evil spirits. Even if you are sufficiently enlightened to know that the thing in question must be something natural, still this explains very little, for the term "nature" again means everything. But you understand or recognize more when you ascertain that the uncouth thing is dead or alive, wall paper or garment, man or animal. You will notice that in this intellectual enlightenment it is simply a matter of classification, of the head under which the mystery should be classed. To classify the

phenomena of truth and life, means to understand, to use the intellect, to enlighten the brain.

But we must well consider how far we shall have to go in our classification in order to find the place in the system which will fully clarify and determine understanding. Suppose that in the above mentioned case you have ascertained that the motion is due to a cat, then the inquiring faculty of understanding has not yet reached the end of its tether. The next question is then, whether it is your cat or that of your neighbor, whether it is black, white, or grey, young or old. And when you finally recognize that it is your tomcat Peter, you must remember that the subject which understands as well as the object to be recognized, being parts of the absolute, are absolutely and infinitely divisible parts, which are never fully understood and never fully exhausted.

Please remember that in speaking of something uncouth, we are not so much concerned in Peter or Tabby, but in the intellect which we desire to understand so that we may make a correct use of it. And I refer to it as uncouth merely because its understanding is beset with so many difficulties. When I compared it in the preceding letter with a photographic apparatus which should furnish us with pictures, and in likening it now to an instrument designed to distinguish things by classification, I warn you not to be confused thereby. Classification is most essential as a means of producing intellectual pictures. In this connection I emphasize once more that the faculty of understanding, the same as other things, is not independent by itself, but can accomplish something only in the universal interconnection. The understanding that the phenomenon quoted above belongs to the category of tomcats, and more especially into the column labeled

Peter, would not be any understanding at all, if you had not become previously acquainted with the mouse-devouring race and individual in question. Only in connection with your previous experience is the understanding that this tomcat and the uncouth motion are one and the same thing, or belong to the same category, a true understanding.

Ludwig Feuerbach says: A talented writer is recognized by the fact that he assumes talent on the part of the reader also and does not chew up his subject into minute parts like a petty schoolmaster. On the other hand, it seems to me that it is possible to assume too much, and I pursued a schoolmasterly course in this case, because the subject is new to you and still leaves plenty of room for reflection.

I wanted to show by a commonplace example what I mean by insight and understanding and how by means of it the unknown and uncouth becomes known and familiar. True, the understanding in this case was illumined by previous experience, while you are after new knowledge. You want to know how enlightenment arises in order to acquire new insight. Now, all novelty has the dialectic quality of being at the same time something antiquated. New understanding can be acquired only by the help of old understanding. In other words, old and new understanding, which I define here as the faculty of classification, have their existence only in the total interdependence of the universal existence.

You must discard the old prejudice that knowledge can be collected like cents. Although this is well enough, it does not suffice for the purpose of logical thinking. One science belongs to another, and all of them together belong to one class with the entire universe. It will be ap-

parent to you, then, that at the beginning of your young days your knowledge has **not** sprouted all at once, but has come out of the unknown. And what is true of you, is true of the whole human race. In its cradle it was without intellect. It had, indeed, the germ. But do not beasts, worms, and sensitive plants have that also? In short, the light of perception and understanding is nothing new in the radical sense of the word, but connected with the old and with the world in general, and of the same kind. All our knowledge must be connected and combined into one understanding, one system, **one realm**, and this is the realm of reality, of truth, of life.

Systematic classification is the task of logic. **The first** requirement for this purpose is the awakened consciousness of the indivisibility of the universe, of its universal unity. This consciousness is, in other words, at the same time the recognition of the merely formal significance of all scientific classification.

The unity of the universe is true, and is the sole and innate truth. **That this** sole world truth is full of differences, is just as absolutely different as absolutely the same, does no more contradict a reasonable unity and equality than there is any contradiction in the fact that the various owls have different faces and still the same owl face.

Aristotle divided the sense into five parts, anthropologists the race of man into five races, natural philosophers the space into three dimensions. It is now a question of showing to you that such a division, however true and just, is nevertheless far from being truth and justice, but is merely classification. The fundamental requirement of logic is to designate scientific classifications as that which they are, viz., mental operations. It is the business of the intellect to make classifications. That is its characteristic

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quality and does not contradict the indivisible truth in the least.

Old wiseacres teach that a reasonable man must not contradict himself, and this is a wise, though very narrow, lesson. Hegel maintains that everything in the world is reasonable, hence the contradictions are also. Under this conservative exterior there is hidden a very revolutionary perception of which the "destructive" minds take advantage in order to flatly contradict the wiseacres and their stable, dead, disordered order which cannot stand any contradiction.

Reason dissolves all contradictions and opposition into harmony by logical classification. "Everything in its own time and place." If it does not wish to be called unreason, reason must rise to the understanding that its opposite is only a formal antagonism. It must know that God and the world, body and soul, life and death, motion and rest, and whatever else the dualists may distinguish, are two and yet one. Then it becomes clear that the conservatives are the real revolutionaries, because by their senseless adherence to the "good old order" they drive the proletariat to desperation, until it upsets that order. On the other hand, the maligned revolutionaries are conservative, because they subordinate themselves to the world's evolutionary process which was, is, and will be eternal.

The red thread winding through all these letters deals with the following points: The instrument of thought is a thing like all other common things, a part or attribute of the universe. It belongs particularly to the general category of being and is an apparatus which produces a detailed picture of human experience by categorical classification or distinction. In order to use this apparatus cor-

rectly, one must fully grasp the fact that the world unit is multiform and that all multiformity is a unit.

It is the solution of the riddle of the ancient Eleatic philosophy: How can the one be contained in the many, and the many in one?

FOURTEENTH LETTER

Shoemaking and beet culture are as much sciences as physics, chemistry, and astronomy. Reading, writing, and reckoning are called elementary knowledge, and though I do not deny that they have an elementary value for the culture of the mind, yet I can truly say that I have met well-informed people who could neither read nor write. I wish to indicate by this that there are indeed high and low degrees of knowledge and science, but that such graduations have only a temporary, local, relative, subjective significance, while in the absolute all things are the same.

The scorn with which you may hear some people speak of the night of the absolute in which all cats are grey and all women beautiful Helenas shall not prevent us from repeatedly studying the absolute which I have again and again praised as the main topic of logic. Only remember, please, that you must not have any mystic idea of it. The absolute is the sum total of all that was, is, and will be.

The subjects as well as the objects of all science belong to the absolute, which is commonly called "world."

All other sciences have for their object limited parts, relative matters, while the science of the mind treats of all things, of the infinite. This is a point to which I refer

frequently because it tends to make my lessons obscure. I am lecturing on the science of the intellect, but I speak of all things, of the universe, because I am obliged to demonstrate, not the relation of the mind to shoemaking or astronomy, but its general interrelations. I have to make plain its general conduct, and this leads necessarily to the all-embracing generality, to the absolute. We wish to learn the art of thinking, not on this or that subject, but the art of general world thought.

The intellect is a special part, the same as every other scientific or practical object. But it is that part which is not satisfied with piece work, which knows that it itself and all special things are attributes or predicates of the absolute subject, that it itself and all things are universally interrelated.

The human mind is sometimes called self-consciousness. But this name is too limited for such an unlimited thing, for the pathfinder of the infinite, for your, my, and every other consciousness of the world and of existence in general.

For centuries the question has been discussed whether there are innate ideas hidden in the intellect or whether it may be likened to a blank paper which experience impregnates with knowledge. This is the question after the origin and source of understanding. Whence comes reason, where do we get our ideas, judgments, conclusions? By the help of brown-study from the interior of our brain, from revelation, or from experience? It seems to me that you will quickly decide this matter, when I ask you to consider that everything we experience, together with the intellect going through experiences, is a revelation of the absolute. Everything we know is experience. We may consider the mind as a sheet of blank paper, but in order

that it may receive writing on its surface this internal paper is as necessary as the external world which produces the hand, the pen and the ink for this process of writing. In other words, all experience originates from the world organism. Not knowledge, but consciousness, world consciousness, is innate in the intellect. It has not the consciousness of this or that in itself, but it knows of itself the general, the existence as such, the absolute.

The science of the intellect has ever wrestled with one peculiar fact. It found knowledge which the mind had received from the outside, so-called empirical knowledge. But it also found knowledge which was innate, so-called *a priori* knowledge. That there is always a valley between two mountains, that gold is not sheet iron, that the part is smaller than the whole, that the angles of a triangle are together equal to two right angles, that circles are round, that water is wet, that fire is hot, etc., these are things of which we know that they are true in heaven and in hell, and in all time to come, although we have never seen there with our experience. This plainly shows that we harbor a secret in our brains which the lovers of the mystical seek to exploit by making believe that their self-interested wisdom of God and high authority likewise belongs to the eternally innate truths. For this reason it is especially important for the proletariat to bring the controversy of the origin and source of understanding to a close.

Our logic asks: Does wisdom descend mysteriously from the interior of the human brain, or does it come from the outer world like all experience? We shall leave its descent from heaven out of the question.

The answer is: Science, perception, understanding, thought, require internal and external things, subject and

object, brain and world. Truth is here and truth is there. Truth is so divine that it is everywhere and absolute.

But how to explain that wonderful *a priori* knowledge which exceeds all experience? For it is a fact that the intellect has not alone the faculty of knowing things in general, but also that of separating them into their parts and from one another and to name them. It cuts off slices, so to say. But not like the butcher who sees everything merely from the standpoint of his trade. You will remember from your own experience as well as from my repeated statements that the world is not a monotonous, but a multiform unit. This confused knot is dissolved and explained by intellectual separation, by classification. In the absolute everything is alike and unlike. But the intellect makes abstractions from the unlike. For instance, in conceiving of the term minerals, we pass over the distinction between gold and sheet iron. Then, when we continue the classification by subordinating gold and sheet iron as separate species to the general term of minerals, we know very well that gold and sheet iron are different kinds of the same general mineral nature. We know what the names indicate, and so long as they retain their meaning, we know that neither in heaven nor in hell can gold be sheet iron or sheet iron be gold. Water and fire are specialties taken from the universe and named. Is it a wonder, then, that these names have a special meaning and that we have the settled conviction that wherever sense instead of nonsense is master, fire burns, water wets, circles are round, and the sum of the angles of every triangle is equal to two right angles?

These illustrations are commonplace enough, indeed, but it seems to me that they clearly show the mere formality of the distinction between innate and experienced

knowledge. You will recognize that both of these kinds of knowledge are different and yet of the same kind, that both are mixtures of the internal and external. Knowledge *a priori* ceases to be a miracle when we understand that it comes out of the same fountain of experience as a *posteriori* knowledge, and in either case knowledge is acquired only by means of the intellect. Hence intellect connected with the world is the sole source of all wisdom, and external nature as well as our internal faculty of understanding are parts of the one general nature, which is the truth and the absolute.

"Only a gradual, slow, gapless development," says Noiré, "can free the thinking mind from the philosophical disease of wondering."

The art of dialectics or logic which teaches that the universe, or the whole world, is one being, is the science of absolute evolution. "In the whole constitution of all natural things," writes Lazare Geiger, "there is hardly anything more miraculous than the way in which the miracle avoids our glance and continuously withdraws into the distance to escape observation. In the place of the abrupt and strange things produced by imagination, reason puts uniformity and transition."

And we add that the science of reason, or logic, teaches simultaneously with the unity of the whole world, also that all things are alike miraculous, or that there is only one miracle, which is existence in general, the absolute. In other words, everything and nothing is miraculous.

In demonstrating that the most different things, such as heat and cold, and all radical distinctions, are only relative forms of universal nature, I prove the uninterrupted

and matter of fact transition and the absolute graduality, the fusion, of all things.

I have tried to establish this proof in regard to the two kinds of knowledge and illustrated it with commonplace examples, because these have a popularizing effect. In order to meet the demands of more exacting minds, I shall presently take up the miracle of causality. The indubitable statement that everything must have its cause is regarded as the most miraculous innate knowledge, and is much misused for the purpose of bringing confusion into logic.

FIFTEENTH LETTER

My Son:

If on my return from some voyage I were to tell you of all the things I have *not* seen, you would justly doubt the order of my senses. Sane reason demands that the description of unfamiliar things be given in a positive, not in a negative manner. If that is so, is it not wrong to proceed negatively by trying to prove in explaining the nature of the intellect that it is not a miracle and no mysterious charm of wisdom? I answer: No. For the present, the intellect is still a sort of *ignis fatuus* which is magnified into a fiery man. In order to understand the *ignis fatuus*, it is necessary to remove the fiery man. Logic must show that human reason is not a miracle, not a mystical receptacle of wisdom. The negative process is in such a case positively in order. Wherever a thing is obscured by prejudices, these must first be removed, in order that room may be made for the bare fact.

It was the famous Kant who posed the question: "How is *a priori* knowledge possible?" How do we ar-

rive at the knowledge of things which are not accessible to experience? The answer is that the intellect cannot accomplish such a miracle, and Kant substantiates this in a long-winded way and with admirable penetration. But he left a nasty hair in the soup.

He found that by the help of our reason we can explain only phenomena. The confusion between truth and phenomena had been handed down to him as an infirmity of ancient times. He worked diligently on its solution, but left some work for those coming after him. Originally the study of supernatural and the profane study of natural things were closely intermingled. Not until the obvious results of natural science became known, did thinkers accommodate themselves to the habit of leaving supernatural things to faith and limiting science to the study of natural phenomena. Science had so to say passed on to the practical order of business, not paying any further attention to the contrast between phenomena and truth. But the logic, which is innate in the human mind, cannot content itself with the dualistic split between faith and science. It demands a monistic system and does not desist until the primeval forests of faith are completely put under cultivation.

The logical impulse of culture caused Kant to continue what was begun by Socrates. Philosophy before Socrates searched for truth externally. While our logic teaches that everything is true, and truth is the universe, the Ionic philosophers made a sort of fetish out of the matter. Thales idolized the water as the thing of things, another the fire, a third numbers. This worship of the fetish was the worship of truth. The search for understanding starts out with misunderstanding. From religious to scientific culture, it is a step, not a leap. When

Socrates turned to introspection and started out, with his "Know thyself," in submitting the prodigy of the human soul to critique, he made another important step.

You know that the "wisest of men" was not interested in air and water, in natural science of the strict order, but rather in the good, the true, and the beautiful, in the human in the narrower sense, in the realm of the spirit, in the soul. It was indeed unwise that he was interested to the verge of idolization, since in consequence of this interest in a special part, the other, the material part was being neglected. According to Goethe's statement that one thing is not fit for all, Socrates did right. He and all philosophical lights after him studied the intellect. What they missed was the now dawning understanding that the faculty of thought is not a prodigy but a special, and at the same time common, part of universal nature. While these philosophers looked for truth in any one special form of excellence, you are now invited to look for it in the total interrelation of things.

Science has ever endeavored to do away with miracles and prodigies. This could be accomplished only gradually, and the logicians have, therefore, remained more or less biased and confused. The great Kant was no exception. He looked for supreme truth, and for its sake he investigated the intellect. He is celebrated because he explained so well that this intellect feels no mission for anything transcendental, and cannot understand anything but phenomena. Still he permitted something transcendental to remain.

Kant is of the opinion that we perceive things as they appear, but not as they are "in themselves." Nevertheless we should believe that a mysterious truth is at the bottom of those phenomena, because we should other-

wise arrive at the irreconcilable contradiction that there are phenomena without anything which could appear. The intellect, he holds, can operate only on the field of phenomena, and for this reason we should give up the endless grubbing after the transcendental. But we should leave one little room in the house of reason, one little chamber of faith, which points beyond experience up to the point where a mysterious truth guards God and His commands.

The subsequent philosophers, especially the Hegelian philosophy, opposed this separation which assigned to the intellect only the study of phenomena and to faith the absolute and infinite for veneration. But they did not yet succeed in completely mastering the matter, they did not fully arrive at an indubitably clear exposition of the fountain of understanding and of the unity of truth, so that reaction nowadays can again sound the retreat after the melody: "Back to Kant." You know that Lessing complained about the treatment of "a dead dog" accorded to Spinoza, and Marx added pointedly: "Hegel is more of a dead dog to-day than Spinoza was at Lessing's time." The enemies of the working class are the enemies of evolution. They wish to preserve the existing order of things and the good old time in which they feel at home. For this reason it is the mission of the proletariat to continue the work of logic. It is our duty to show clearly that the metaphysical truth which Kant opposed to the phenomena of nature and could not eliminate from the intellect, is nothing but just a metaphysical, a fantastically exaggerated, thing.

According to our logic, the universe is the truth and everything partakes of it. That such a truth is logical and such a logic true, is shown by the interconnection of

things, so that this science is applicable to everything which the sciences respect as reasonable and true.

In order to help you in the understanding of the absolute and liberate your thought from all special miracles, I refer to Kant's critique of reason. It teaches that our intellect becomes a source of understanding only in connection with other phenomena of nature. Only his critique stuck fast in the mysterious fountain of causality. Thus he showed that he was only a seeker after logic, not its master. The conclusion that there must be *something* that does appear where there are phenomena is certainly correct. But that which Kant was thinking of, something of a transcendental or metaphysical nature, led him to the radically wrong conclusion that there must be something different, peculiar, miraculous, mysterious, wherever there are phenomena.

The Kantian conclusion that there must be an absolute truth by itself behind a phenomenon, an absolute truth that exists independent of and disconnected with such phenomenon, was due to his fetish-like conception of truth. It is the first requirement for a correct use of the faculty of logical reasoning to know that truth is the common nature of the universe.

That a phenomenon must be based on nature, or an effect on a cause, is a fact identical with "causality" which I already promised to discuss in the preceding letter. This same problem may also be expressed in the words: Where there are predicates, there must be a subject that carries them. In order to make quite sure that I will not be misunderstood, I emphasize once more the fact that I am not raising any doubt as to the correctness of this conclusion, but only to the metaphysical application of this conclusion after the Kantian manner which consists

in making the same use of it as a clergyman who tries to prove that his theology is innate in reason.

Our conception of logic wishes to show that all causes and effects are matter of the same kind, and that our faculty of reasoning is a matter of fact thing which brooks no mysteries or metaphysical dreams.

SIXTEENTH LETTER

Now let me illustrate the interconnection of all things, or the world-unit, by discussing the question of causality. We know that everything has its cause. We know that this is also true on the Moon or on Uranus, although we have not acquired this knowledge by experience on those world bodies. Thus it seemed that the intellect was a mysterious receptacle containing innate wisdom. The same receptacle also contains, for instance, the truth that all white horses are white and all black horses black. We do not know anything about the color of other horses in other countries, but the color of black and white horses we know even if we have never seen them in other countries. It is thus apparent that our intellect is an instrument which reaches beyond experience. For this reason there would seem to be no telling where the supply of such miraculous revelations would stop and into what mysterious worlds the intellect passing beyond the limits of experience would lead us.

In order that the human intellect may not appear transcendental, in order to give it its place in the general classification of natural forces, we must investigate the nature of causality and so-called *a priori* knowledge.

Kindly observe in the first place that a thing is just as wonderful *after* it is explained as it was before its explanation. A scientific explanation of a thing ought not to do away with our admiration, but only to reduce it to reasonable bounds. The intellect may very well be regarded as something wonderful, but its wondrous quality should be reduced to the measure of all things which are none of them any less wonderful. After you have explained what water is, after you have learned that it is composed of two chemical elements, after you have realized all its qualities thoroughly, it still remains a wonderful, divine, fluid.

"All things have their causes." What are all things? They are attributes, qualities of the universe. It is innate in the intellect to know that the world is *one* thing, that all things belong, not to any different thing, but to one and the same subject. The intellect is by nature the absolute feeling of unity. It knows of itself that everything is interrelated and that the consciousness of causality is nothing else but the consciousness of cosmic interrelation. And I maintain that the innateness of the consciousness of cosmic interrelation in our brain is explained when we realize that it is an actual thing like all others, a phenomenon which has the same general nature as every other phenomenon.*

The fact is undeniable that a certain knowledge is innate in our consciousness. The only difficulty has been to explain this fact. At this point I call your attention to the exaggerated notion entertained in regard to explaining, and understanding, things. By explanations, a thing is not dissolved, but only classified.

The hatching of an egg is explained when you per-

*e. g. That of natural existence.—EDITOR.

ceive that this process is part and parcel of a whole class of similar processes. If you modify the exalted idea of the effect of explanations in this sense, you must realize that the innate consciousness of the general interrelation of things is natural and intelligible and requires no other explanation than the humidity of the water, the gravity of bodies, or the color of black horses.

Even after it has been explained and understood, the intellect with its logic remains a wonderful thing. Just as clay is by its nature untransparent and pliable, or glass transparent and brittle, so consciousness has its peculiar innate qualities. In this way knowledge comes to the intellect not only by experience, but it is also a sort of receptacle full of wisdom. Still this receptacle would no more contain wisdom without experience than the eye would have impressions without light.

In order to straighten out the intricate windings of our subject, I recapitulate them. We wish to learn the proper use of our intellect, the conscious application of consciousness. To this end we analyze its hitherto hidden mystical nature. So long as we exalt this nature transcendently to the clouds, we do not acquire its proper use. Therefore the first paragraph of our lesson reads: The intellect belongs in the same category with all things of the universe. And the second paragraph says: If we distinguish two classes of thought radiated by the human intellect, viz., innate thoughts, such as causality, and on the other hand thoughts which come through experience, we must remember that such a distinction is correct only when we realize that in spite of this classification in two kinds they really belong to the same kind. Innate and acquired wisdom, though served on two different plates, still are taken from the same general world dish.

From this it follows that the science of causality, though applicable to all the phenomena of the world, does not apply to the universe. If it is a fact that all wisdom is worldly, then one must not fly outside of the world with the concept of causality.

This is the salient point at issue.

All things are one thing, are interdependent, stand in the relation of cause and effect toward one another, or of genus and species. To say that all things have a cause means that they have a mother. The fact that every mother has a mother finds its final ending in the world mother or mother world, which is absolute and motherless and contains all mothers in its womb.

Causes are mothers, effects are daughters. Every daughter has not only a mother, grand-mother, and great-grand-mother, but also a father, grand-father, and great-grand-father. The origin, or the family relationship, of a daughter is not one-sided, but all-sided. In the same way all things have not one, but many causes which flow together in the general cause.

The intellect which has the innate knowledge that everything has its cause will accept the teaching that all causes in the world are founded in the absolute world cause and must return to it. It is the quintessence of logic not only to ascertain the true nature of the intellect, but also to elucidate the nature of the universe by the help of the intellect.

All things have a mother, but to expect that the world mother should logically have a mother is to carry logic to extremities and to misunderstand the intellect and its art of reasoning.

If you have recognized the faculty of understanding as a part of existence, you will not wonder at its miracu-

lousness. Existence is wonderful. Its parts arise one out of the other, out of the universal interrelations of the one world. They all have their predecessors and causes. But what is true of the relative parts, is not true of the absolute whole.

I am the son of my father and the father of my son, I am at the same time father and son. In the same way all things are simultaneously cause and effect. Although father and son are two different persons, still the capacity of being father and son rest in the same person, and although cause and effect are to be distinguished as two things, still they are two relations of the same thing. Persons and things, causes and effects, are not independent entities, but relative entities, are interconnections or relations of the absolute.

The intellect is innate in us, and with it and through it also the consciousness of being, although it is innate in us only as the teeth of the child which grow after birth. Everything that we become aware of is known only as a part of the universe. In so far as this is wonderful, the consciousness of causality is miraculous. But, in fact, the knowledge of the causality of all things is innate wisdom the same as that of the color of all white and black horses. At the same time it must be observed that every innate knowledge is in part acquired, and every acquired knowledge in part innate, so that both kinds intermingle and form one category.

My whole argument aims to convince you that all things are worldly things, and their causality is only another name for the same thing, just as the German *brot* is called *pain* in French and *bread* in English. Thus we derive the firm conviction that if there is *pain* in heaven there will be bread, and if there are things, there will be

causes and effects, or interrelation with the unit of existence.

The mystery of causality is sometimes expressed by the statement that we possess the indubitable knowledge which extends beyond all experience that wherever a change takes place there must have preceded another change. Indeed, we have the faculty of recognizing the unity in the infinite multiplicity, and infinite multiplicity in the unity. Multiplicity, change, motion—who is to split hairs about them, who will make fine distinctions? The intellect is the photographic organ of the infinite motion and transformations called the “world.” It is and possesses the consciousness of cosmic changes. Is it a wonder that it knows that there is interrelation in its things, that no part of the world, not a particle of its motion and transformations, stands alone by itself, that everything is connected and mutually dependent in and with the universe? Because this understanding is in a way innate in the intellect, therefore it understands that there is nothing but change, infinitely proceeding transformations. And if it detaches any single thing from this process, it knows that changes preceded it and changes will follow.

In short, we must not marvel at any single part of nature, not even at the intellect, but admire the whole universe. Then fetishism will at last end and a true cult, the cult of world truth, can begin.

The art of thinking, my dear Eugene, is not so easy. For this reason I keep on warning you against misunderstanding. I do not mean to advise you with the foregoing against admiring any single part of nature, or of art, a landscape or a statue. My teaching merely tends to moderate admiration by the reflection that the whole

world is wonderful, that everything is beautiful, so that nothing ugly remains. The distinction between beautiful and ugly is only relative. Even when I say that the true worship of God, the cult of truth, cannot begin until idol worship ceases, you will appreciate the phrase and will not insinuate that I do not value the cultivation of science in the past, or that I hate idol worship to the extent of forgetting what I have emphasized repeatedly, viz., that idol worship is also worship of God, and error a paving stone on the way toward truth. The most minute thing is a magnitude. Everything is true, good, and beautiful, for the universe is absolute truth, beauty and goodness. I conclude with the words of Fr. von Sallet:

A sunny view of world and life
Is balm for brain and heart,
It is with health and beauty rife,
With noblest works of art.
But do not for a moment think
That it is captured in a wink.
The golden harvest does not grow,
Unless the early tempests blow.
And only bitter woe and strain
Will bright and lofty wisdom gain.

SEVENTEENTH LETTER.

My subject, dear Eugene, is the simplest in the world, but it requires thorough treatment for all its full understanding. So every letter is in a way but a repetition of the same argument. "It is remarkable," says Schopen-

hauer, "that we find the few main theses of pre-socratic philosophy repeated innumerable times. Also in the works of modern thinkers, such as Cartesius, Spinoza, Leibniz, and even Kant, we find that their few main theses are repeated over and over."

Now I ask you to consider what I said in my first letters, viz., that the titles of the principal philosophical works reveal that philosophy is engaged in the study of logic, in the analysis of the intellect and the art of its use. You will then recognize that in the very nature of the subject my presentation of the matter lacks systematization. It has no real beginning and end, because its object, the intellect, is interconnected with the whole universe, which is without beginning and end, which has neither before nor after, neither above nor below.

You may venture that the relation of the intellect to the universe does not concern the intellect especially, but is a universal matter. That would be true.

But it is easy to show that the art of thinking and wisdom of the world are identical. And although the universal interrelation of things is germane to all things and subjects, yet its consideration is a special task of logic which treats all objects of thought summarily.

My subject therefore begins everywhere, even though it is a specialty. Hence I take the liberty to take my departure from any literature which I happen to study. In the present letter, I deal with "logical investigations" of the prominent Professor Trendelenburg. His is a bulky volume, but you need not fear that I shall weary you with its subtleties. As a rule I read only the preface of philosophical works of the second and third order, their introduction and perhaps the first few chapters. Then I am approximately

informed as to what I may expect from them further on. One frequently finds statements which, if they do not throw new light on the subject, still bring out in bolder relief some of the accomplishments of historical research in our field. And in order that the son may not trust to the father alone, which might lead to distrust, I connect my argument with some statements of Trendelenburg.

In the preface to the second edition the author complains of the "dull headache" which the Hegelian intoxication has left in Germany and says: "Philosophy will not resume its old power until it becomes consistent, and it will not become consistent until it grows in the same way that all other sciences do. In other words, it must not take a new departure in every brain and then quit, but it must approach its problems historically and develop them. The German prejudice must be abandoned, according to which the philosophy of the future is supposed to look for a new principle. This principle has already been found. It consists in the organic world conception, the fundamentals of which are resting in Plato and Aristotle."

The Professor is right, but he overlooks that the philosophers, even of modern times, do not begin "each on his own account," do not have "each his own principle," or if they have, such a "false originality" is but the indifferent attribute of historical development which has handed the object of logic, the true art of thought, from generation to generation in an ever brighter condition.

I repeat this emphatically for pedagogic reasons, because I consider it essential to convince you and the reader that the apparent paradoxes which I state are

the objects of discussion since time immemorial. I also wish to stimulate you to a study of the master works of philosophy which show the cheering spectacle, in the persons of the most brilliant specimens of the human mind, of the onward march of this mind from darkness to light.

In order that the wheat contained in this human treasure box may not be concealed by the tares, I am endeavoring to throw light on the outcome of the historical development of philosophy, and for this purpose I continue to discuss the question by taking my departure in this instance from some further statements of Trendelenburg.

"It is a peculiarity of philosophical methods of reasoning to recognize a part in the whole, and it is tacitly assumed that the whole is descended from a thought which determines the parts. On the other hand, it is peculiar to empirical methods of analysis to study the parts without regard to their interrelation, or at best to collect them and put them together, and it is tacitly assumed that every point is something peculiar in itself which must be studied apart from all the rest."

"The aim of all human understanding is always to solve the miracle of divine creation by further creative thought. When this task is undertaken in detail, the detail study forces one on to other things; for things must go backwards toward their dissolution by the same force through which they arose out of the depths."

These sentences state the problem before us. Shall we use the intellect philosophically, or shall we use it empirically? We are striving to understand the parts and the whole, and this is identical with the research after a systematical world philosophy, or with the art of dialectics.

Now we must state in the first place that thinking of any kind, whether it be philosophical or empirical, is of the same species, that the same kernel is contained in both forms. Roses are different flowers from carnations, but the flower nature is in both of them. Thus the nature of thought is contained in both philosophical and empirical thinking. The distinction is well enough, but their unity must not be lost sight of.

The philosophers, he says, seek to understand the detail by the whole; the empirical thinkers analyze the details without regard to interrelations. But both methods of research are different specimens of the same genus, and both of them are one-sided when their interconnection is overlooked. The empirical thinker who seeks to understand the details in their isolation, thinks philosophically, when he regards his special research as a contribution to the whole, and the philosopher, who seeks to understand the detail by the whole, thinks empirically when he rightly regards all details as attributes of the whole.

Trendelenburg, then, has expressed his case very obscurely. Both methods of study, if employed one-sidedly, entirely misconceive the art of thinking. The philosophers err when they regard the intellect as the only source of understanding and truth; it is only a part of truth and must be supplemented by all the rest of the world. On the other hand, the empirical thinkers err when they look for understanding and truth exclusively in the outer world, without taking into account the intellectual instrument by the help of which they lift their treasures. In fact, such one-sided philosophers exist only in theory; I mean there are some who imagine that truth could be one-sided. But in practice they all testify, much against their will, to the inevitable interconnection of mat-

ter and mind, of inside and outside. In the practical use of the intellect everybody shows that the part operates in the whole, and that the whole is active in its parts.

We know *a priori* that the universe is a whole. The universal existence can be conceived only as of one kind or nature. The mere thought that there might be something which does not partake of the nature of the universe is no thought, because it is a thought without sense or reason. The whole world is the supreme being, though I grant that we have but a vague conception of it. We have as yet no detailed, true, conception of the universe, but it is gradually acquired in the course of science. Still, our conception will never be perfect because details are infinitesimal and the absolute being is infinite growth.

As to details, we know them more or less accurately and yet not accurately, because even the most minute part of the infinite is infinite. All science has searched in vain for atoms. What our understanding knows, has always been nothing but predicates or attributes of truth, although they are true attributes and are truly understood by us.

I emphasize the inadequacy of all modes of thought and of all understanding in opposition to those who make an idol of science. I emphasize the truth of all perceptions in opposition to those knownothings who claim that truth cannot be understood, but can only be admired and worshipped. Hence it follows for our theory of understanding that intellect and reason and the art of thought are no independent treasure boxes which make any revelations to us. They are theoretical classifications which in practice are operative only in the universal interconnection of things. Understanding, perceiving, judging, distinguishing and concluding, etc., are unable to produce any

truths. They can only enlighten and clarify experience by logical classification and distinction. Because man produces works which are preceded by planning, therefore the philosophical mode of research has "assumed that the whole is descended from a thought." But this is an assumption of human origin, which is shown to be without foundation on closer analysis. The plans of our works are copies of natural originals and are "free creations of the mind" only in a limited sense. The artists are well aware of the natural descent of their thoughts and fictions. To regard the world as the outcome of thought is a perverse logic. It is the first condition of rational, proletarian, thought to recognize the intellect and its products as attributes of the world subject.

EIGHTEENTH LETTER

Just as in political history action and reaction follow one another, just as periods of economic prosperity are alternated by periods of depression, so we find in literature a periodical fluctuation between philosophical and anti-philosophical tendencies.

After Hegel had for a time thoroughly aroused the spirits, a time of apathy followed, so that this hero of thought who shortly before had been almost idolized could be attacked and reviled. For about a decade, a philosophical breeze has now once more been blowing. The subject of logic, the theory of understanding, is again the object of universal attention. This movement is stimulated by important discoveries in science, such as the heat equivalent of Robert Mayer, the origin of species by Dar-

win, etc., and natural science and philosophy may be compared to two miners who are digging a tunnel, so that sharp ears on both sides can hear the blows of the hammers and the clanging of the tools.

There is much truth in this picture, but it may also lead to misunderstandings. By the vivisection of frogs and rabbits, by boring into the brain, physiology will not discover the mind. No microscope, no telescope, will reveal the nature of reason and truth or the art of logical discernment.

Neither will Lazarre Geiger, Max Müller, Steinthal, and Noiré succeed in philology in solving the "last questions of all knowledge" by the help of any primitive arch-language.

At the same time, the value of the co-operation of these gentlemen is not denied, only I desire to point out that the comparison with the tunnel is not quite accurate. What Marx said of economic formulas, is true of logical formulas: "In their analysis neither the microscope nor chemical reagents are of any service. The power of abstraction must replace them both."

The two sciences will finally meet, not because each one of them digs away in its own one-sided fashion, but because the miners meet after working hours and exchange their experiences. And the philosophers may be the dominant party, because they are specialists in logic and therefore prepared to utilize anything which may serve their purpose, no matter from what side it comes. The other party, on the other hand, has its own specialties and promotes the cause of logic in a secondary and involuntary fashion.

Natural science has its own monism which is distinguished from philosophical proletarian monism in that

it does not appreciate the historical outcome of philosophical research. One of the most prominent representatives of the former is Noiré. He entitles one of his little works "Monistic Thought," but shows himself on its pages as a very unclear dualist. He speaks of the "dual nature of causality" and relates that the mind operates with a different causality than the mere mechanical one. He calls this other "sensory causality."

According to him the world has only two attributes: "Motion and sensation are the only true and objective qualities of the world. . . . Motion is the truly objective . . . though it is admitted that it gives us only the phenomenon. . . . Sensation makes up the internal nature of things. Every subject, whether man or atom, is endowed with the two qualities of all beings, viz., motion and sensation."

Thereupon I have carefully looked for an explanation in Noiré's works, why he regards the nature of things as composed of an external and an internal quality, and why sensation should not be regarded as a sort of motion, but the only reason I could find was the dualistic nature of his "monistic" reasoning.

As Schopenhauer provided the whole world with a "will," so Noiré provides it with "sensation."

Kant and his "Critical Philosophy" held in their time that our intellect perceives only the phenomena of nature, while the mystic law of causality, according to him, points to a hidden being, which cannot be perceived but must be believed, which we may venerate but must leave undisturbed by science. Schopenhauer, his brilliant successor, who in spite of his brilliancy did not materially advance the cause of philosophy, mystified the problem of causality by his discovery that the nature of the world is will power.

These teachings of Kant and Schopenhauer are dressed up anew and mixed with the recent discoveries of science by Noiré. But he entirely ignores the work of Schelling and Hegel, who by their criticisms have made evident the lack of logic in the Kantian separation of phenomenon (apparition) from noumenon (essence), of cause from effect.

You are familiar with the silly question whether Goethe or Schiller, Shakespere or Byron, is the greater poet, and you will not think that I am trying to elevate Hegel above Kant or Kant above Hegel. They are just two cogs on the spinning wheel of history. If the second crushes what the first has cracked, such is the result of their succession.

Natural science is also a valuable co-operator in the solution of the world problem, not so much by digging in the logical tunnel itself, or making amateur excursions into the fields of philosophy or metaphysics, but because it elucidates and renders tangible the special object of logic in such far-embracing objects as the unity of natural forces or of animal species. The scientific presentation of this special object, however, requires a brain armed with the full equipment of the historical outcome of philosophy.

Now you must not believe that I am conceited enough to place my own little personality on the pedestal as the only true philosopher. I am too well aware of my shortcomings as a self-educated man. But seeing that I have striven earnestly and without prejudice since my young days to understand the high object of my studies, I feel in my heart a certain confidence in my qualification to deal with it. On the other hand, I know my lack of that sort of learning which is required in order to be able to present the scientifically much-courted nature of the human mind

in such a form and with such emphasis as its sublime character deserves. And if I, nevertheless, come before the public on various occasions with my tentative works, I offer as an excuse that hitherto the Messiah has not appeared who will come after me and whose John the Baptist I should like to be.

You, my dear Eugene, will take me soberly and reduce my resounding words to their proper measure, when I, in the intoxication of enthusiasm, flow over like that now and then. You know that I am no hero worshipper. Though all research is but the product of individual minds, the mind of each man is a part of the universal mind which produces science. Now follows the point which forms the conclusion of all my letters: The intellect which produces science is indeed a part of man, but still more a part of the world, it is the universal world intellect, the reason of the absolute, the absolute reason.

The study of this intellect at work, not merely in shoe-making, in anatomy, or in astronomy, but in all fields, in the infinite, of its life in the absolute, is the means by which the art of logic is acquired. It is true that the infinite exists only in finite parts, and you cannot conceive of the infinite directly, you can perceive it only in its parts. And in perceiving them you must always remember that every part is an infinite piece of the infinite universe.

In his "Introduction and Proofs of a Monistic Theory of Understanding," Noiré, after enumerating the new points contained in his work, adds sneeringly that he is "not in a position to give any new clues as to the nature of the absolute." For this very reason I want to denounce his "Monism" as a shallow piece of work, which offers only the name instead of the essence.

The well-known Ernst Hæckel knows a great deal

more about this subject. In a lecture given at the twenty-fifth convention of natural scientists in Eisenach, he calls the monistic view of nature "a grand pantheistic one." The essence of all religion, according to him, consists in the "conviction of a final and unmistakably common cause of all things." And he continues: "In the admission that with the present day organization of our brain, we are unable to penetrate to the final cause of all things, the critical natural philosophy and dogmatic religion agree." Whether the professor is one of those natural philosophers who regard the human mind as too narrow for the understanding of the "unmistakably (hence somewhat understood) common cause of all things," is not quite clear to me, nor probably to the famous scientist himself. For he adds: "The more we progress in the understanding of nature, the more we approach that unattainable final cause." And further on: "The purest form of monistic faith culminates in the conviction of the unity of God and nature."

Now I ask: If nature, God, and absolute truth are one and the same thing, have we not learned something about the "final cause of all things?" What necessity is there in that case for speaking in such an abjectedly humble tone of human understanding, or to assign nothing but straw and husks to it, in the language of Hegel?

You see, then, that Hæckel has a higher estimate of absolute nature than Noiré who does not care to have anything to do with the nature of the absolute. But my object at this moment is to convince you that neither the one nor the other of these two, nor natural science, so-called, is directly digging in the tunnel which will give us light on the question of the limits of our understanding and the final cause of things. Our logic, on the other

hand, which treats the intellect as a part of nature, cultivates a natural science that includes the mere empirical natural science in the same way in which the day of twenty-four hours includes the day of twelve hours and the night.

Natural science proper deals mainly with tangible things. Light and sound, the objects of eye and ear, are still included in its studies. The objects of smell and taste stand on the dividing line. But the so-called sciences of the mind, such as grammar and politics, political economy and history, morals and law, and most decidedly logic, are entirely excluded.

Such a limitation is well enough, if we remember that it is purely formal. However, it must not overlook the bridge which leads from limited nature to universal, infinite, nature.

The monism of natural science has a far too narrow view of the universe. When it says that "all is motion," it says just as little or as much as Solomon with his "all is vain." Everything is crooked and straight, everything great and small, everything temporal and eternal, everything truth and life. But nothing is thus said to show the meaning of distinction in this world, to explain how rest exists in motion, and sense in nonsense.

In order to differentiate logically we must know that everything is everything, that the universe or absolute is its own cause and the final cause of all things, which embraces all distinctions, even that of causality and that between matter and mind.

NINETEENTH LETTER

"Philosophy should not try to be edifying," said

Hegel. This means that religious feeling is far below scientific thought. But there is a reverse side to this sentence, viz., that thoughts which do not rise to the edifying interconnection of all things, no matter whether they remain stuck in some specialty on account of frivolousness or of narrowmindedness, are far below a wise world philosophy.

In a former letter I have already emphasized, and I hope to prove it more convincingly, that the conception of "God," or of the absolute, is indispensable for a logical world philosophy.

You know that in my dictionary the gods and divinities of all religions and denominations are "idols," and justly so, since they are all manufactured images. Instead of the entire universe, they worship a more or less unessential part of it.

The religions show by their idolatry, the sciences frequently by their little creditable indifference, that they have no conception of the intellect and its art of reasoning.

The universe is a familiar conception. Everybody uses it, and there is apparently little to say about it. But in fact it is the conception of all conceptions, the being of all beings, the cause of itself which has no other cause and no other being beside itself. That the whole world is contained in the universe is so obvious that you may wonder at my waste of words over such a matter-of-fact thing. But when you consider that the people have always searched for a world cause outside of the world, together with a beginning of the world and a transcendental truth, then you will see that they have not grasped the conception of the world as a whole, as a universe. And if that is admitted, then the proof that it is the cause

of all causes, the beginning of all beginnings, and the truth of all truths, is not such a superfluous undertaking.

Now you may say that it is presumptuous to try to understand the whole universe at once. This objection is justified in a way, according to the interpretation of the words. Still I hope that it will be my justification to declare that it is not a question of understanding the universe in detail, but only in general, not each and everything in its differentiation, but only in a summary way. And it is only the edifying conception of the universe as a whole which will open for you the door to the understanding of the human mind, of thought, and the art of using it. We wish to understand *the* conception; not this or that conception, but the whole conception, the conception of the whole. You will no longer indulge in the superstition that the faculty of thought or understanding is a thing apart from the world's interconnection. I presume that you have now learned enough about the art of thought to be sure not to think of anything without its worldwide interrelation. For so long as one imagines that a piece of wood or a stone is a thing in itself, without connection with light and air, with Earth, Moon, and Sun, he has a very barbarian conception of the things of this world.

I maintain that the understanding of the human faculty of reason and the art of its use are inseparable from the world concept. And I want this understood in the sense, that it is not a mistake to distinguish between the internal mind and the outside world, but that these are merely formal distinctions of the essentially indivisible and absolute universe.

The concept of this true God or divine, because universal, Truth shows on close analysis that it includes the

special truth of the art of thought as well as all other sciences, and pre-eminently the science of thought, because this science must not limit itself to any special thing, but must be world wisdom by its very will and nature.

To understand the universe, then, means to become aware that this being of all beings has no beginning, no cause, no truth nor reason outside and beside itself, but has everything in and by itself. To understand the universe means to recognize that one is rushing beyond the worldly infinity into the realm of fantastic transcendentalism and abusing the intellect, when illogically applying such terms as beginning and end, cause and effect, being and not being, to the absolute universe. Such an illogical use of the faculty of thought is well illustrated and rebuked by the poet who questions and answers:

“And when my life has passed away,
What will become of me?
The world has one eternal day,
‘Thereafter’ cannot be.”

In order to acquire the universal sense, you will strive to understand that the universe includes all relative things, while as a whole it embodies the absolute or the edifying deity.

If you would become world-wise, you must learn that the things called opposites and contradictions have a different meaning than is ordinarily applied to them by the logic of the idolators. They say that God and the world, body and soul, truth and error, life and death, etc., are irreconcilable antipodes; that they exclude one another; that they cannot be brought under the same roof, but

must be kept wide apart by the laws of eternal reason. But this doctrine of contradiction is merely narrow dogmatism, which confuses the minds instead of enlightening them. Certainly, death differs from life, the perishable from the imperishable, black from white, crooked from straight, large from small. Who would be silly enough to deny that? But even the apparently most contradictory and opposite things may be classified under the same genus, family, or species, as twins in a mother's womb. The same thing that does not prevent male and female from sitting in the same nest, does not prevent the most widely different things, in spite of their separate characters, from being one and the same, from being two pieces of the same caliber. You are certainly still the same Eugene that you were as a little baby, and yet you are at the same time another. The experts in physiology even claim that they can compute how often a man of sixty has changed his flesh, bones, skin, and hair. Although the old man is the same individual that he was when first born, yet he never remained the same.

You will see by this illustration that all difference is of the same nature, a general, supreme, universal being, absolute and divine, and this absolute world being is highly edifying, because it comprises all other beings and is the Alpha and Omega of all things.

Is this world-god a mere idea? No, it is the truth and life itself. And it is very interesting to note that the so-called "ontological proof of the existence of God" agrees very well with the world truth which I proclaim in the tabernacle of logic. This proof is originally attributed to the learned Anselmo of Canterbury. However that may be, it is certain that Descartes and Spinoza support him with their famous names. They hold that the "most per-

fect being" must necessarily have existence, because otherwise it would not be the most perfect.

"I understood very well," writes Descartes in the fourth section of his "Method of Correct Thought," "that in accepting the hypothesis of a triangle I would have to accept the fact that the sum of its three angles is equal to two right angles. But nothing convinced me of the presence of such a triangle, while I found that my conception of the most perfect being was as inseparably linked to existence as my conception of a triangle is to the identity of the sum of its angles with two right angles. . . . Hence it is certainly as undeniable as any geometrical proof can be that God exists as this most perfect being."

This argument appears to me as clear as daylight and ought to convince you, not of the existence of a transcendental idol, but of the truth of the absolute and most perfect world being. If you were to remark that this perfectness is not so very great, considering its many obvious imperfections, I should ask you not to split hairs and to recognize with sane senses that these imperfections of the world belong as logically to the perfect world as the evil desires belong to virtue which becomes virtue only by the test of overcoming them. The conception of a perfection which has no imperfections to overcome would be a silly idea.

Now in conclusion let me say a few words of apology for continually interchanging the universe and the concept of the universe. I frequently speak of the idea of a thing as if it were the thing itself. But see here! Do you not ask on seeing the portrait of some person unknown to you: Who is this? And do you not interchange the portrait for the person itself, without difficulty and misunder-

standing? The idea stands in the same relation to the thing, as the portrait to the person it represents. This remark is directed against that unsound logic which knows only the separation of the idea from the thing, of reason from its objects, but does not grasp the mere formality of such a distinction, does not appreciate the unity of the world, the edifying and supreme truth, the truth of the supreme being.

This letter, my dear Eugene, pleads for edification, but only for that kind of edification which includes the unedifying, whereby edification is sobered down. If you would give the name of pantheism to this world philosophy, you should remember that it is not a sentimental and exalted, but a common sense pantheism, a deification which has the taste of the godless.

TWENTIETH LETTER

Dear Eugene:

Today I am going to present my case with the precision of a schoolmaster.

The concept of white cabbage embraces all white cabbage heads that ever were and ever will be.

The concept of cabbage embraces red, white, and many other kinds of cabbage. The concept of vegetable embraces a still wider range. The organic field is still more comprehensive. And finally the world concept embraces everything which we know and don't know, the end of which we cannot conceive, and which therefore is called infinite.

When we trace our steps backward over the same reasoning, we find at once that the universal concept is

divided into two parts, viz., the universe and the conception of it. We thus find the world in the concept and the concept in the world, so that both of these parts are interconnected, each is the predicate of the other, and whether we turn the thing to the right or to the left, the concept is in the world and the world in the concept.

Now it is true that the concept, or the faculty of understanding, is the object of our study rather than the world outside of it. The faculty of understanding, by the way, is nothing but a collective noun for all concepts, hence simply another name for concept in general. But what I eternally repeat is this: We cannot make a concept separated from all the rest of the world the object of our study, because that would be an empty abstraction which does not take on any meaning until we connect it with the world, for instance the special concept of cabbage with sense-perceived cabbage and so forth.

The concepts of white cabbage, cabbage in general, vegetables, or plants, etc., are all of them special concepts and at the same time general concepts. The one and the other is relative. Compared to the various species it includes, the general concept of cabbage is abstract, while compared to the general concept of vegetables it is concrete. And so it is with all concepts. They are abstract and concrete at the same time. Only the final concept, the world concept, is neither concrete nor abstract, but absolute. It is the concept of the absolute, which is indispensable for an understanding of logic.

We found a while ago that the absolute world concept consisted of two parts, viz., the concept and the world. In the same way, the chemists teach us that water consists of two elements, each of which by itself does not make any water, while their compound makes pure water. But

we do not need such distant illustrations. My table in its present composition is something different from what it would be if the same pieces were put together in some other way and without a plan.

Therefore the world concept is a far more sublime concept than all the parts of which it consists. And in order to make this quite clear, I may honor this compound of the world and its concept by a special name, say "universe," so as to distinguish it from its component parts.

Now I declare, without fear of having the word turned in my mouth by any sophist, that the world embracing the thought, or the universe, is the absolute which includes everything, while the world and the thought of it, each by itself, are but classifications or relative things.

We wish to understand thought, not empty abstract thought, but the universal world-embracing thought, the thought in a philosophical sense. This is not mere thought, but living truth, the universe, the absolute, the supreme being.

It is with the universe and its parts as it is with a telescope and its concentric rings. Our intellect is a special ring which gives us a picture of the whole concentric thing. This photographer, as I have called it in a former letter, is not the object of our study for its own sake, nor for the sake of its pictures, but rather for the sake of the original, of the universe. It is as if somebody were to buy a portrait of some historically renowned person. No matter how much concerned the buyer would be with the picture, in the last analysis he is concerned with that person itself. So it is with the art of understanding the absolute, with world wisdom, which we study not for the sake of the wisdom, but of the world itself.

This lengthy discussion might have been cut short by

simply speaking of the world instead of going to so much trouble on account of the world concept. But I should then miss my point, which is that the human intellect is a part of the world, and that the ideological distinction which separates this intellect from the rest of the world, requires for the whole an embracing term.

The absolute concept is the concept of the absolute, of the supreme being. To it applies all the true, good, and beautiful ever attributed to God, and it is also that being which lends logic, consistency, and form to all thought.

Plato is a philosopher who has thrown a wonderful light on the faculty of understanding, though he has not fully explained it. In his dialogue entitled "Gorgias," he makes Socrates say the following: "Does it seem to you that men want that with which they occupy themselves at any time, or that for the sake of which they undertake whatever they may be engaged in? Do those, for instance, who take some medicine prescribed by the physicians seem to want that which they do . . . or to want that for the sake of which they take medicine, viz., health? . . . In the same way those who go on board of ships and trade do not want that which they are doing; for who would care to go to sea and face danger or conquer obstacles? That for which they go to sea is that which they want, viz., to become rich; they are going to sea for the sake of acquiring wealth."

Plato thus says that the immediate purposes of men are not their real purposes, but means to an end, means to welfare or for "good." He therefore continues: "It is in pursuit of good, then, that we go when we go, because we are after something better, and we stand still for the sake of the same good."

Now let us go a step farther than Socrates and Plato. Just as men's actions are truly done, not for the sake of some immediate purpose, but of the ulterior, of welfare, and just as their so-called ethical actions are justified only by the general wellbeing, so all things of the world are not substantiated by their immediate environment, but by the infinite universe. It is not the seed planted in the soil which is the cause of the growing plant, as the farmer thinks, but the Earth, the Sun, the winds, and the weather, in short, the whole of nature, and that includes the seed germ.

If we apply this reasoning to our special object, the faculty of understanding, we find that it is not a narrowly human, nor a transcendental, but a universal cosmic faculty. According to Homer, the immortal gods call things by other names than mortal men. But once you have grasped the concept of the absolute, you understand the language of the gods, you understand that the intellect by itself is but a minute particle, while in the interrelation with the universe it is an absolute and integral part of the universal absolute.

All things have a dual nature, all of them are limited parts of the unlimited, the inexhaustible, the unknowable. Just as all things are small and great, temporal and eternal, so all of them including the human mind are knowable and unknowable at the same time. We must not idolize the faculty of thought nor forget its divine nature. Man should be humble, but without bowing in doglike submission to a transcendental spirit, and he should be sustained by the sublime consciousness that his spirit is the true one, the spirit of universal truth.

Everything can be seen by eyes, including those of a hawk. Just as the eye is the instrument of vision, so the

intellect is the instrument of thought. And just as spectacles and glasses are means of assisting the eye in seeing, so senses, experience, and experiments are means of assisting the intellect in understanding. With this equipment the intellect can assimilate everything in its conceptions. It understands "all," but "all" only in a relative sense. We understand all, just as we buy everything for money. We can buy only what is for sale. Reason and sunshine cannot be valued in money. We can see everything with eyes, and yet not everything. Sounds and smells cannot be seen. Just as everything is great and small, so everything is knowable and unknowable, according to the meaning given to "everything" in the language of men or gods. That word has the dual meaning of applying to any particle and to the whole universe. So is the human mind universal, but only a universal specialty.

Look at that magnificently colored carnation. You see the whole flower, and yet you do not see all of it. You do not see its scent nor its weight. In the human language "whole" means a relative whole, which is at the same time a part. Every particle of the universe is such a dual thing. But in the language of the gods, which is spoken by philosophy, only the absolute universe is whole.

When the subject under discussion is not the intellect, but some other part of the world, for instance the eyes, the universal concept of the absolute is not so important, because the faculty of seeing, like the faculty of wealth, is in little danger of being metaphysically abused.

One knows that eyes which can see around a corner, or through a block of iron, or which can perceive the scent of a carnation, are as meaningless as a white sorrel. Even though our eyes cannot see the invisible, that does not

prevent them from being a universal instrument which can see everything, that is everything visible.

If you understand this, you will also see through the miserable wisdom of the professors which wallows on its belly in the dust and cries with the faithful: O Lord, O Lord! similarly to Du Bois-Reymond, who cries out: *Ignorabimus!* It is true that the human mind is an *ignoramus* in the sense that it is ever learning, because there is inexhaustible material in nature. There is also something unknowable in every particle of nature, just as there is something invisible in every carnation. But the unknowable in the sense used by those ignorant people who cannot understand the human mind because they have a transcendental monster in their mind, such a monstrous unknowable exists only in the imagination of the idolators to whom the true spirit reveals itself as little as the spirit of truth.

Just as surely as we know that there cannot be in heaven any knife without a blade and a handle, nor any black horses that are white, just so surely do we know that the faculty of understanding can never and nowhere be the absolute, but must always be a special faculty. The concept of understanding, like the concept of a knife, is limited to a definite instrument. There may be all kinds of knives and intellects, but nothing exists that has escaped from its own skin or from the limitation of its own particular concept.

By this standard you may measure the silly thought of those who speak transcendently of an unlimited faculty of understanding. They haven't any right idea of the mind nor of the universe, of the conceivable nor of the inconceivable, otherwise they would not speak in such a nonsensical sense of the "Limits of Understanding." In

short, you see that the relative limitation or absoluteness of reason can only be understood by means of the concept of the absolute.

TWENTY-FIRST LETTER

The proletarian logic of the working class searches after the supreme being. The working class knows that it must serve but it wants to know whom to serve. Shall it be an idol or a king? Where, who, what, is the supreme being to which everything else is subordinate, which brings system, consistency, logic, into our thought and actions? The next question is then: By what road do we arrive at its understanding? Any transcendental revelation being of no use to us, there are only two ways open: Reason and experience.

Now it is a mistake of common logic to regard these two roads as separate, while, in fact, they are one and the same common road, which by the help of empirical reason or reasonable experience leads us to the point where we recognize that the supreme being to which everything is subordinate, is nothing special, not a part or a particle, but the universe itself with all its parts.

We take medicine for the sake of health, we make efforts for the sake of wealth. But neither health nor wealth are an end in themselves. What good is health to us, when we have nothing to bite? What good are all the treasures of Cræsus, if health is lacking? Therefore health and wealth must be combined. Nor is that enough. There is a spirit in us that drives us farther ahead. There are still other treasures and requirements, for instance contentment is surely one of them. But the motive power

of the world spirit is so infinite, that it is not satisfied until it has everything. Everything, then, in other words the whole world, that is the true end.

Socrates and his school, to whom I alluded in the preceding letter, wandered the way of separate reason for the purpose of finding the supreme being, the true, the good, the beautiful. The platonic dialogues paint a very magnificent picture of the truth that neither health nor wealth, neither bravery nor devotion, are "the greatest good," but that it is mainly a question of the understanding and use to which mankind put these things. Accordingly they are good or bad, they are but relative "goods." Love and faith, honesty and veracity, are good enough, but not *the* good; they only partake of the good. What is sought is that which is under all circumstances absolutely good, true, and beautiful.

When Socrates asked his disciples to define the good or reasonable, they enumerated as a rule a series of good and reasonable specialties, while the master was continually compelled to instruct them, that his research was not aimed at those objects. They name important virtues, and he wants to know what absolute virtue is. They name good things, and he is looking for *the* good, for pure goodness, while the good things have the bad quality of being good only under certain circumstances.

The Socratic school then finds out that only the understanding or the intellect can find the circumstances under which we may arrive at the absolute. Understanding, the human mind, philosophy, is to them the divine. Thus they arrive at their famous "Know thyself," which in their language means: Hold introspection and rack your brain. But they did not succeed in thus using the intellect as an oracle. Nor did the Christian philosophers of later times

fare any better with that method, when they changed the title of the object of their studies and substituted God, Liberty, and Immortality, for the good, the true, and the beautiful.

In order to get out of the confusion resulting from the many names given to the object of logic in the course of history, it must be remembered that pagan as well as Christian research founded their quest for the absolute on the innate need of understanding the supreme being which was to be the pivot of all thought and action. Polytheism had to have a supreme god, no matter whether his name was Zeus or Jupiter. In consequence of this longing for unity it was very natural that the place of the many immortals was finally taken by one eternal father of all. The philosophers are distinguished from the theologians only in so far as the former seek for the fulcrum of the world more on real than on imaginary ground.

After more than two thousand years of mediation by intermediary links, ancient philosophy has at last been transformed into modern democratic-proletarian logic which recognizes that the intellect is an instrument which leads to the supreme being on condition that it does not rack the brain but goes outside of itself and consciously connects itself with the world outside. This connection constitutes the supreme being, the imperishable, eternal, truth, goodness, beauty, and reason. All other things only "partake of it," to use Platonic language.

Although the Socratic school were handicapped by many fantastical attributes, still they were on the road towards true logic, as neither health nor wealth, nor any other treasure or virtue satisfied them. They did not care for true phenomena, but for truth itself. But truth is the universe, and man must understand that this is the only

truth, in order to be able to use his intellect logically, to be reasonable in the highest and classical sense of this word.

All the world speaks of logic and logical thought. But when you, my son, as a thinking man feel the need of getting out of phraseology and knowing exactly what words should mean, you will hardly find one book that will give you sufficient light on the subject of logic. The best book would be the Bible, perhaps. I mean that, when you inquire after beginning and end, purpose and destination, in short, after that which would give you and all things a definite support, when you search for the vortex around which everything revolves, then the Bible does not tell you about the beginning of this or that part of history, but speaks of the absolute beginning and end of all history, of the general purpose and general destination of all existence. That is what I call logic.

The free thinkers were not satisfied with religious mythology, they wanted to bring consistency and logic into their brains by their own studies. Plato and Aristotle have done good work along this line. So have the subsequent philosophers, Cartesius, Spinoza, Kant. The main impediment for all of them was the obstinate prejudice that man could have reason in his own brain. Of course, that is where he has it, but it is not reasonable reason. The intellect shut up in the skull has not wisdom in its keeping, as the ancients thought. Wisdom cannot be acquired by racking your brain. Hegel is right: Reason is in the brain, it is in all things, "everything is reasonable." I merely repeat, then, that the universe is the true reason.

You will not misunderstand the term "racking your brain." I am not an opponent of introspective thought,

but only desire to call your attention to the fact that it has led to the wrong habit of separating thought from sight, hearing, feeling, of divesting the mind of the body. Just as the Christian looked for salvation outside of the flesh, so the philosophers looked for reason or understanding outside of the connection with the rest of the world, outside of experience. It was especially the research after the nature of the intellect which imagined it had to creep inside of itself.

When studying the stars, we look at the heavens; when endeavoring to enrich our knowledge of plants, we gather flowers. But if we attempt to understand the mind, we must not rack our brain, nor dissect it with an anatomical knife. We shall indeed find the brain, but not the mind, not reason.

And even the brain is not so easily cut out, as many an overzealous materialist may think. The student of anatomy who pries into the nature of the brain substance knows very well that this substance is not contained in the head of this or that fellow, but must be sought in many heads before the average brain is found, which differs materially from that of Peter or Paul. This will show that your brain is not only your own, but also "partakes" of the universal brain, and you will easily conclude from this how much less your reason is yours alone. Hegel is right: Not only men, but everything is reasonable.

True, the most rotten conditions may be defended by such maxims. Hence the great logician Hegel has the bad name of having been, not a philosopher of the people, but a royal state philosopher of Prussia. I will neither blacken nor whitewash him, nor will I overlook that he left the great cause in a state of mystical obscurity. But I recognize that even the worst prejudices, the most per-

verted morals, laws and institutions, have their reasonable justification in the times and conditions of their origin. Such an understanding is immediately followed by the further insight, that the most reasonable things, crushed by the wheel of time, will become rotten and unreasonable. In short, the "good" is not any special institutions, but is found in the interrelations of the universe. Only the absolute is absolutely good. And for this reason not only some conservative editors of capitalist papers, but also the revolutionary authors of the "Communist Manifesto," are genuine Hegelians.

TWENTY-SECOND LETTER

Dear Eugene:

Socrates teaches: When we walk, it is not walking, when we stand still, it is not standing which is our purpose. We always have something ulterior in view, until finally the general welfare is the true end of our actions, in other words, the "good." And on closer analysis you will find that your individual welfare, the so-called egoistic good, is not enough in itself.

You are not only related to your father, mother, brothers, sisters, relatives and friends, but also to your community, state, and finally to the entire population of the globe. Your welfare is dependent on their welfare, on the welfare of the whole.

I know very well that the horizon of the everyday capitalist minds does not reach farther than they can see from the steeple of their church. They think according to the bad maxim: The shirt is closer to the skin than the coat. If I had to choose between the shirt and the coat, I should

prefer to wear the coat without a shirt rather than to run around in shirt sleeves as the object of universal ridicule. The old man who plants a tree the fruits of which he will perhaps never see is not such a capitalist mind, otherwise he would sow seeds that would ripen during this year's summer.

At this juncture we must remember that the disciples of Socrates who looked for the absolute under the name of the "good," were in so far narrow as they conceived of it only from the moral, specifically human, standpoint, instead of at the same time considering its cosmic side. Just as health and wealth belong together, and even these are not sufficient for human welfare which further requires all social and political virtues, so the good is not comprised in the interrelations of all mankind, but passes beyond them and connects itself with the entire universe. Without the universe man is nothing. He has no eyes without light, no ears without sound, no morals without physics. Man is not so much the measure of all things; his more or less intimate connection with all things is rather the measure of all humanity. Not narrow morality, but the universe, the supreme being, is the good in the very highest meaning of the word, is absolute good, right, truth, beauty, and reason.

In my preceding letter I spoke of universal reason and said that not alone men, but also mountains, valleys, forests and fields, and even fools and knaves were reasonable. Now you are familiar with that student's song: "What's Coming from the Heights?" and you know that it makes everything leathern. It speaks of a leathern hill, a leathern coach-driver, a leathern letter, even father, mother, and sister are of leather. And I mention this simply for the purpose of showing that I understand that we cannot call

leather reasonable and reasonable leathern without brewing a mixture of language which is lacking the mark by which all reasonable language is distinguished from chattering, howling, and roaring. Language is only reasonable when it classifies the world and distinguishes things by different names.

This is easily understood. But it is more difficult to see that those who use their intellect without logical training exaggerate distinctions to such an extent that they ignore the connection between them. All things are not only distinct, but also connected. But logic so far must be blamed for not rising to the recognition of the interrelation of all things. The science of understanding frequently treats reason and experience as if they were two different things without a common nature. Therefore, I make it a point to insist that there is no experience without reason and no reason without experience.

The linguists who dispute about the question whether reason has developed after language or language after reason agree that both belong together. One cannot speak without the use of reason, or talk without sense, because chattering, or babbling, or whatever one may wish to call it, are everything else but language. On the other hand, there can be no reason without naming the things of this world, so as to distinguish between leather and lady, between reason and experience.

Of course, the idea of a leathern lady is only a youthful prank. Still it is calculated to illustrate the dialectic transfusion of all names and things, of all subjects and predicates. It shows indirectly that according to common sense thought, reason has its home only in the brain of man, and that this reason is nevertheless unsound when it does not know and remember that the individual human

brain is connected with all brains, and reasons with the whole world, so that only all existence and the entire universe is reasonable in the highest meaning of the word.

In order to be able to use your reason in all research and on all objects in a reasonable manner, you must know that the whole world has one nature, even leather and your sister. Apparently there is a wide gulf between these two, and yet in both of them the same forces are active, just as a black horse has the same horse nature as a white horse, so that from this point of view your sister is indeed leathern and leather sisterly. Such statements sound paradoxical enough, yet I insist on making them in this extreme manner in order to fully reveal the absolute oneness of all existence, since it is the indispensable basis of a reasonable understanding of logic.

Take one of the questions of the day now agitating the public mind, for a further illustration. Two tendencies are now observed in the most radical political movement of the nations. One of them is called propaganda of the deed. It works in Russia and Ireland with dynamite, powder, and lead. The other recommends the propaganda of the word, of the vote, and of lawful agitation. And the difference between these two is not discussed reasonably with a view to ascertaining for whom, when, where, and why, this or that propaganda is fitting, but every one tries to present his relative truth with the fanatical sectarianism of those who claim absolute truth. But if you have grasped the method of getting at truth, the true method of using your reasoning faculty, you will take sides for one thing today and for another thing tomorrow, because you will understand that all roads are leading toward Rome. And if some of the comrades out-vote you occasionally, you will still value these antagon-

ists as friends, and if you combat them, even in a war to the knife, this will still be a relative war, a use of the knife with reason.

Our proletarian logic is tolerant, not fanatical. This logic does not want to be reasonable without passion, nor passionate without reason. It does not abolish the difference between friend and foe, between truth and falsehood, between reason and nonsense, but calms the fanaticism which exaggerates those distinctions. Its fundamental maxim is: There is only one absolute, the universe.

Remember well that the conception of a universe which has anything outside or beside itself is still more senseless, if possible, than the idea of wooden iron. You thus see that all differences have one common nature which does not permit a transcendently wide difference between things or opinions. Because the universe is the supreme being, therefore all differences, even those of opinion, are unessential.

For the purpose of studying logic, I entreat you to pay special attention to the question of essential differences and to test it by your own experience which will come to you from day to day.

By means of our logic we learn the language of the gods. In the dictionary of this language, there is only one essential being, the universal or supreme being. On the other hand, the language of the mortals calls every particle a "being," but such being can be relative beings only.

Every ear of a cornfield, every hair of an ox skin, and even every one of their particles, is such a being. But these relative beings are at the same time unessential attributes. Thus all differences between the particles of the world are simultaneously essential and unessential; in

other words, they have a relative existence, they merely partake of the supreme being, compared to whom they are absolutely unessential. Whether you are a good or a bad man, whether your country is happy or unhappy, free or oppressed, is very essential to you or me, but compared with the great absolute whole it is very unessential. In the universal history the fate of any single nation has no more significance than one hair on my head, although none of my hairs is there by mere chance and all of them have been counted. Hence everything is in its particular and isolated self an unessential thing, but in the general interrelation everything is a necessary, reasonable, essential and divine particle.

And now we come to the moral of it all. The human reason, the special object of logical research, partakes of the nature of the universe. It is nothing in itself. As an isolated being, it is wholly void and incapable of producing any understanding or knowledge. Only in connection, not merely with the material brain, but with the entire universe, is the intellect capable of existing and acting. It is not the mere brain which thinks, but the whole man is required for that purpose; and not man alone, but the total interrelation with the universe is necessary for the purpose of thinking. Reason itself reveals no truths. The truths which are revealed to us by means of reason, are revelations of the general nature of the absolute universe.

If you think of reason in this way, then, my son, you are thinking reasonably, are world-wise, logical, and true.

TWENTY-THIRD LETTER

(A)

Although we know that there is no actual beginning, because we are living in the universe without beginning and end, still we mortals must always begin at a certain point. So I have begun one of my retrospects over the history of my subject with Plato, and at another time I have ended with Hegel, although before and after them there has been much philosophical thought. These two names are luminant points which throw their light over everything which is situated between them.

The errors of our predecessors are just as useful for the purpose of illustration as their positive achievements. More even: the errors form the steps of a ladder which leads toward a universal world philosophy. We clamber up and down on it, perhaps a little irregularly, but nowadays the crooked roads of an English park are preferred to the straight French avenues.

It was an achievement on the part of the Socratic and Platonic schools to seek the good not in good specialties, but in general good as a "pure" or absolute thing, to search for virtue in general instead of virtues. But it was a mistake which prevented their success, to exaggerate the distinction between the special and the general. According to Plato, the black and white horses canter over terrestrial pavements, but the horse in general, which is neither brown, black, nor white, neither as slender as a race horse nor as clumsy as a draft horse, cantered along in the Platonic "idea," in the ideal mists. Platonic logic lacked what is taught by our present, or if you prefer, future proletarian logic, viz., the general understanding of the interrelation of all things, the truth that in

spite of their individual differences all things belong together as individuals of the same genus. The logical relation between individual and genus stuck upside down in the brain of the noble Plato.

He lived in a time which is similar to our own time in that the world of the gods of the ancients was in the same state of dissolution in which the Christian religions are today. Plato was as little satisfied with Grecian mythology as a basis for a reasonable explanation of the world, as we are with Christian mythology. He wanted to ascend to the universal truth, not by way of little traditional stories, but by scientific philosophy. His intention was good, but his weak flesh wrestled with a task which required thousands of years for its solution.

A while ago I said that it was that topsy-turvy view of religion as to the relation between the special and the general which thwarted Plato. Let me illustrate a little more in detail in what this religious topsy-turvydom consisted.

Here we have wind, the waters of the seas, the rays of the sun, chemical and physical forces, forces of nature. These are specimens of the universal force of nature. These specimens were regarded with sober enough eyes by the Greeks, but the general nature sat high upon Olympus in the form of Zeus. In the same way, the Greeks were familiar with beautiful things, but beauty was an unapproachable goddess, Aphrodite. True, the philosopher no longer believed in the gods, but he was nevertheless still under the influence of transcendental concepts and thus he mystified the general under the name of the "idea." The Platonic ideas, like the gods of the heathen, are mystifications of the general. Plato furthermore shows himself as a descendant of polytheism in

this: Although he clearly distinguished between virtue and virtuous things, between beauty and beautiful things, between truth and true things, yet he did not rise to the understanding that all generalities are amalgamated and unified in the absolute generality, that, in so far, the good, the true, and the beautiful are identical. The research for the absolute did not become monistic until Christian monotheism lent a hand. You will see from this that religion and philosophy form a common chapter which has the genus of all genera for its object. Faith is distinguished from science in that the latter no longer bows to the dictates of imagination and of its organs, the priests, but seeks to fathom the object of its studies by the exact use of the intellect. A partial amalgamation of the two is, therefore, quite natural.

"When a woman is strong, isn't she strong after the same conception and the same strength? By the term *same*," says the Platonic Socrates, "I mean that it makes no difference whether the strength is in the man or in the woman."

This quotation, taken from Plato's "Menon," shows that Platonic research deals with the general, in this case the general concept of strength which is the *same* in man or woman, ox or mule, Tom and Jerry. It is the genus by means of which black and white horses are known as horses, dogs and monkeys as animals, animals and plants as organisms, and finally the variations of the whole world as the universe, as the *same*. Plato has grasped this *same-ness* in a limited way, for instance in regard to strength, reason, virtue, etc. But that in an infinite sense everything is the *same*, that things as well as ideas, bodies, and souls, are the same, remained for radical proletarian logic to discover.

Hand in hand with the narrow Platonic conception of the general went a narrow theory of understanding or science, a wrong conception of the intellect and its functions. The Socratic Plato and the Platonic Socrates both call understanding by the name of "remembering." By praising understanding, they teach us that we must not believe the priests, but study by the help of our senses. But, nevertheless, they still teach a wrong method, a narrow art of thought.

In "Menon," the object of study is virtue. Socrates does not exactly pose as a schoolmaster. He knows that he is called the wisest of men, but explains that this is so, because others have a conceited opinion of their wisdom, while his wisdom consists in humbly knowing that he knows nothing. He does not so much try to teach what virtue is, as to stimulate his disciples to search for it. But his idea of research is distorted.

Among the immortal things which he transcendently separates from mortal things, he also classifies the soul, "the immortal soul" which dies and lives again, and has always lived, knows everything, but must "remember." Thus his research becomes a cudgeling of the brain, an introspective speculation. He is not looking for understanding by way of natural science, through the interrelations of the world, but speculatively through the inside of the human skull.

In order to make his theory of memory plain, Socrates in "Menon" calls an ignorant slave and instructs him in the fundamentals of geometry. He quickly succeeds in getting from the ignorant fellow, who at first gives wrong answers, the correct statements by recalling the connections of thought by clever questioning. He thus demonstrates to his satisfaction that man has wisdom *a priori*

in his head. But the Socratic-Platonic art of logic has overlooked that such wisdom requires concepts which are fixed in memory by internal *and* external interrelations. The so-called immortal soul with its innate wisdom has troubled the world a good while thereafter.

You must not think that I have a poor opinion of Plato, because I criticize him in this way. On the contrary, I am highly delighted with his divine and immortal writings. "Honor to Socrates, honor to Plato, but still more honor to truth." I also assure you that I am a great admirer of natural science, but nevertheless I should like to show you that it indulges in narrow reasoning.

Robert Mayer, the talented discoverer of the equivalent of heat, has proven that the force of gravitation, of electricity, of steam, of heat, etc., represents different modes of expression of the same force, of the force of nature in general. But no, not quite so! He has ascertained the numerical relation by which the transformations of one force into another is accomplished. Thus a logical understanding sees that the various forces and force in general are distinguished in detail but identical in general. Darwin in his "Origin of Species" has accomplished a similar demonstration. But neither Mayer nor Darwin have given that general expression to world unity which is required by the art of logic. In order to become an adept at this art, you must rise to the understanding that all forces are various modes of expression of the one force, all animals and species transformations of animality, that on the moon a part is smaller than the whole, the same as on earth, that there as well as here fire burns, and that as surely as you have no doubt of your being, just as surely is there only one being, the infinite, divine

universe which has no other gods beside it, but contains all forces, materials, and transformations.

This is an innate science which is the cause of all other science, an innate science which, indeed, must first be awakened in you by "memory."

Hence our proletarian logic instructs you not to rack your brain by mere introspection, as the ancient philosophers used to do, not to call the senses impostors nor to search for truth without eyes, nose, and ears, nor on the other hand to start out with the idea of certain natural scientists who try to see, hear, and smell understanding without the help of the intellect.

The mistake committed in making a wrong use of the intellect is a "sin against the holy ghost." The Socratic-Platonic doctrine of memory is one extreme side of this sin; the other extreme side is represented by that modern science which tries to find truth by mere external means and rejects everything as untrue which is not ponderable or tangible.

As this letter is more intimately connected with the following one than is ordinarily the case, I take the liberty to unite them under the same number and mark them with the letters A and B.

(B)

We are still the guests of Plato today, my son, and I should like to show you that this philosopher, in whose time natural science had barely developed its first downy feathers, already suspected its stubborn narrowness, although in a certain sense the Platonic logic was no less

narrow than that of the so-called exact sciences still is to-day, at least in part. Still Platonic logic had at least the advantage of its outlook toward the Supreme Being, the absolute, while modern naturalism is still stuck in the narrow land of specialties. Therefore, I hope that you will find it interesting to note with me the way in which universal truth is peeping forth beneath the wings of Platonic speculation.

"Listen, then, to what I am going to say," remarks Socrates in "Phaedo," paragraph 45. "In my youth, O Cebes, I had a great interest in natural science, for it seemed to me a magnificent thing to know the cause of everything, to learn how everything begins, exists, and passes. A hundred times I turned to one thing and then to another, reflecting about these matters by myself. Do animals arise when the hot and the cold begin to disintegrate, as some claim? Is it the blood, which enables us to think, or the air or the fire? Or is it none of these, but rather the brain which produces all perceptions, such as seeing, hearing, smelling, and does memory and thought then arise by these, and from thought and memory, when they become adjusted, understanding? And again, when I considered that all this passes away, and the changes in heaven and on earth, I finally felt myself poorly qualified for this whole investigation. Let this be sufficient proof to you: In the things which formerly were familiar and known to me, I became so doubtful by this investigation, that I forgot even that which I thought I knew of many other things, as for instance the question as to how man grows. I thought that everybody knew that this was caused by eating and drinking. For when through the food flesh comes to flesh and bone to bone, and in the same way that which is akin to all the rest of the things which

constitute man, it seemed natural that a small mass would become larger, and thus a small man grow tall. Does not this appear reasonable to you? . . . Consider furthermore this. It seemed enough to me that a man appeared large when standing by the side of something small, that he looked taller by one head, and in the same way one horse by the side of another; or what is still plainer, ten seemed to me more than eight, because it is more by two, and a thing of two feet longer than that which measures only one foot, because it exceeds it by one."

Thereupon Cebes asks: "Well, and what do you think of this now?"

"I think, by Zeus," says Socrates, "that I am far removed from knowing the cause of any of these things. I do not even admit that by adding one to one I obtain two, by such an addition. For I wonder how it is that each was supposed to be one when by itself, while now, that they have been added to one another, they have become two. Neither can I convince myself that if one thing divides a thing in two, that this division is the cause of it becoming two. For this would be the opposite way of making two. But when I heard somebody reading something from a book, written by Anaxagoras as he said, to the effect that it is reason which had arranged everything and was the cause of everything, I rejoiced at this cause. . . . Now if one were to search for the cause of all things, of their origin, existence and passing, he should only find out what is the best way to maintain their existence. . . . Hence it is not meet that man should care for anything else in regard to himself as well as to all other things, but for that which is best and most excellent, and then he would also know the worst about

things, for the understanding of both is the same. Considering this, I was glad to have found a teacher who knows about the cause of all things, who suited me, I mean Anaxagoras, and who would now tell me, first whether the earth is round or flat, and after telling me that, would also explain to me the necessity for it and the cause, by pointing to the fact that it was better that it should be so. And when he claimed that the earth was the center of things, I hoped he would explain why it was better that it should be the center, and when he had explained that, I was resolved that I would not ask for any other cause. In the same way I was going to inquire after the cause of the sun, the moon, and the other stars, etc. . . . For I did not believe that after claiming all this to have been arranged by reason, he would be dragging in any other cause than that of being best to have it just so. And this wonderful hope I had to abandon, my friends, when I continued to read and saw that the man accomplished nothing by reason and adduces no other reasons relating to the arrangement of things, but quotes air, and water, and ether, and many other astonishing things.

“And it seemed that it was as if some one said Socrates accomplishes all things by reason, and then, when he began to enumerate the cause of everything I do, were to say first that I am sitting here because my body consists of bones and sinews, and that the bones are hard and are differentiated by joints, and the sinews so constructed that they can be extended and shortened, etc. And further, if he tried to name the causes of our discussion, he would refer to other similar things, such as sound, and air and hearing, and a thousand and one other things, quite neglecting the true cause, viz., that it suited

the Athenians better to condemn me, and that it suited me for this reason to stay here and seemed more just to me to bear patiently the punishment which they have ordered. For I believe that my bones and sinews would have gone long ago to the dogs or been carried to the Boeotians, had I not considered it more just and beautiful to atone to the state than to flee.

"It is very illogical, then, to name such causes. But if any one were to say that I should not be able to do what I please without these things (sinews and bones, and whatever else I may have), he would be right. But it would be a very thoughtless contention to say that these things are the cause of my actions, instead of my free choice to do the best. That would show an inability to distinguish the fact that in all things the cause is one thing, and another thing that without which the cause could not be cause. And it seems to me that it is precisely this which some call by a wrong name in considering it as the cause. For this reason some put a whirlwind from heaven round the earth and others rest it on air as they would a wide trough on a footstool.'

So far Socrates, whose words I ask you to read repeatedly and carefully, though they may look a little old-fashioned. This quotation is somewhat lengthy, but I thought best not to cut it too short and to present it in its main outlines.

This quotation says on the whole the same thing which I have said in my preceeding letters. According to Socrates, all our thoughts and actions have a wider and more general purpose, which he calls the "good," so that we even do evil for the sake of good. A crime always aims at some particular good. Evil is misunderstood good. Applied to natural science, this means

that it misunderstands the interrelation of all its fine discoveries. And this charge is true even to-day. Although the natural interrelations are more and more recognized from day to day, still the understanding of the absolute inter-connection continues to be overlooked, especially that of the intellect with material things, or of the ideal with the real. Natural science teaches after the manner of the gospel of John: Abraham begot Isaac, Isaac begot Jacob. But it forgets to teach that all these genitors were not genitors in the last analysis, but begotten by old Jehovah himself. The uncultivated condition of Grecian natural sciences may have been ground enough for Socrates to think little of it. We, on the other hand, have to-day good reasons for thinking highly of natural science, and for this very reason I take pains to illustrate by its prominent example in what respect the neglect of the universal world thought results in a narrow conception of the world.

We may well rejoice more lastingly than Socrates when natural science teaches us how it happens that everything has its origin, life, and end, because the knowledge of natural science has been far more enriched by modern experiences than it was at the time of Anaxagoras. Nevertheless you must not stop learning furthermore from logic that all growing, coming into existence, living, and passing away is but a change of form. The causes of natural science are indeed not causes, but effects of the universe. They are reasonable effects of reason in so far as the latter is not an isolated part, but interconnected with the universe. To repeat: Our intellect is not ours, it does not belong to man, but it together with man belongs to the universe. Reason and the world, the true, the good, and the beautiful, together

with Godhood which you shall not idolize but understand in the spirit and in the world, in truth and in reality, are all one thing, one being, and everywhere eternal and the *same*.

Socrates shows that he has as yet only a narrow anthropomorphic, not a cosmic conception of the "best and good" and of reason. He was dominated by the prejudice which still holds sway over the uncultured believers in God, that reason is older than all the rest of the world, that it is the ruling and antecedent creator. Our conception of logic, on the other hand, teaches that the spirit which we have in our brain is but the emanation of the world spirit. And this latter must not be conceived as a nebulous world monster, not as an enormous spirit, but as the actual universe, which in spite of all change and all variation is eternally one, true, good, reasonable, real, and supreme.

TWENTY-FOURTH LETTER

The art of thought, my son, for which we are striving, is not pure and abstract, but connected with practice, a practical theory, a theoretical practice. It is not a separate and isolated thing, not a "thing in itself," but is connected with all things; it has a universal interrelation. Hence our logic, as we have repeatedly stated, is a philosophy, world wisdom, and metaphysics. I include the latter, because our logic excludes nothing, not even the transcendental. It teaches that everything, even transcendentalism, if practiced with consciousness and the necessary moderation, and at the right time and place,

for instance at the carnival, is a reasonable and sublime pleasure.

All prominent philosophers were explorers and users of the same art of thought, of living, of viewing the world, although many of them retired to the solitude and were ascetics. Can the world be understood in a hermitage? Yes and no. After you have been traveling and seeing many lands, it is well to retire and classify the impressions received, and thus to reflect about a true philosophy of life. In this way, secluded thought, in the relative meaning of the word, that is, in connection with observation and experience, with enjoyment and life, is a veritable savior. Body and soul belong together, and if they are separated, it must be remembered that such a separation is a mere matter of form, that they are in fact one thing, attributes of the same being which is infinitely great, so great that all other beings are but its fringes.

The art of distinction distinguishes the infinite infinitely with the consciousness that in reality everything is interrelated without distinction and is one.

This truth, and thus absolute truth, is ignored by laymen and professional authorities alike. The thousand year dualism between body and soul has been especially instrumental in preventing the understanding of the universal interrelation. The whole history of philosophy is but a wrestling with the dualism between matter and mind. It was only by degrees that it moved towards its monistic goal.

After the brilliant triple star Socrates-Plato-Aristotle was extinguished, the philosophical sky was covered with dark clouds. The heathens stepped from the stage, and Christianity and the dogmas of its church predom-

inated the logic of men, until at last a new scientific light arose in the beginning of modern times. It was especially Cartesius and Spinoza who were most brilliant among the early thinkers that emancipated their minds slowly and under great difficulties. Spinoza, of Jewish descent, is especially interesting in his fight against narrow-mindedness and for a universal philosophy. He wrote an "Essay on the Improvement of the Intellect and on the Way by which it is best led to a true Understanding of Things." He, as well as we, was looking for the best way, the true way, the way of truth. He, as well as we, seeks to study and practice the fundamentals of the art of thought.

He begins: "After experience has taught me that everything which the ordinary life offers is vain, and I have seen that everything which I feared is only good or bad in so far as the mind is moved by it, I finally resolved to investigate whether there is any true good—whether there is anything the discovery of which will forever secure continuous and supreme joy. What is most generally found in life, and what mankind regards as the highest good, may be reduced to three things, viz., wealth, honor, and sensual pleasure."

After Spinoza has then uncovered the shadowy side and the vanity of these popular ideals, he calls them "unsafe by their very nature," while he is looking for "permanent good," which is "insecure only as regards its possession, but not in its nature."

But how is that to be found?

"Here I shall say shortly what I mean by true good, and what is at the same time the highest good. In order to grasp this fully, we must remember that good or bad are only relative terms, and thus the same thing may be

called good or bad according to its relations, or on the other hand perfect or imperfect.'

Spinoza, forestalling the object of his research, discovers that the true, supreme and permanent good is the "understanding of the unity" of the soul with the entire nature. "This then," he says, "is the goal which I am coveting."

"To this end, we must study morals, philosophy, and the education of boys, and combine with this study the entire science of medicine, because health materially assists us in reaching our ideal. Neither must mechanics be neglected, because many difficult things are made easy by art. Above all we must strive to find a way for the improvement of the intellect."

Here we have once more arrived at the pivotal point of our subject, my dear disciple. Who or what is the intellect, whence does it come from, whither does it lead? Answer: It is a light which does not shine within itself, but throws rays outside of itself for the illumination of the world. For this reason the science which has the faculty of understanding for its object, though a limited, is at the same time a universal science, a universal world wisdom.

But isn't it a contradiction that a special science wants to be general world wisdom? Is not general wisdom that which comprises all knowledge, all special science? Must I not know everything in order to be world wise? And how can any single brain assume to acquire all knowledge, to know everything? Answer: It is impossible for you to know everything; but you can rise to the understanding that your special wisdom and that of all others is a part of universal wisdom and form together a relative whole which in connection with all the rest of the

world constitute the absolute being. This understanding represents pure logic and is universal understanding, understanding of the universal being.

Do not be troubled by the fact that Socrates was looking for virtue and the "best," or Spinoza for permanent and supreme joy, and that their wisdom aimed only at the narrow circle of human life, without rising to the cosmic interrelation. The means and the instrument by the help of which they strive for their ideal is the intellect. It is quite natural that intellectual research led to the study of the intellect, to the "improvement of the intellect," to the "critique of reason," to "logic," and finally to the understanding that the faculty of thought is an inseparable part of the monistic whole, of the absolute which lends support, consistency, reason and sense to all thought.

On his exploring tour for the improvement of the intellect, Spinoza picks up a remark which seems to me worthy of closer attention. He says in so many words: If we are looking for a way to improve the intellect, is it not necessary for the purpose of finding such a way to first improve the intellect, in order to be at all able to discern the way which leads to an improvement of the intellect, and so on without end? "We must have a hammer to forge the iron, and in order to have a hammer, it must be made; but for this purpose we need another hammer and other instruments, and so forth without end. In this way it must not be proven that men have no power to forge iron. Men have rather accomplished only the easiest tasks with difficulty and imperfectly by the help of the natural tools of their bodies. Gradually they accomplished more difficult things with

less labor and better. And thus they slowly proceeded from the simplest tasks to the instruments."

I admire in this process of reasoning the brilliant understanding that the hammer is not such a limited instrument as the untrained human brain thinks. It thinks that a hammer is not a pair of tongs. But Spinoza says that the bare fist is a hammer when used for striking, much more a stone or a club. A pair of tongs used to drive a nail becomes a hammer; a hammer which I use to draw a nail becomes a pair of tongs. Fist or club, sense or nonsense, all is one. In other words, things are separated, but never so far as the fantastical dreamers think. Just as hammer and tongs, saw and file, are parts of the class of tools, so all things are parts of the one and absolute universe. Recognize, then, dear Eugene, that the relative and the absolute are not separated by such a bridgeless chasm, that the one should be praised to the skies and the other damned to the lowest pit. Understand that everything is dialectically inter-related, that the infinite, eternal, divine, can live only in the finite, special things, and that on the other hand the parts of the world can exist only in the absolute. In short, raise your conception to the universal conception, and at the same time, understand the supreme being in all its parts instead of idolizing it.

The Positive Outcome of Philosophy

BY JOSEPH DIETZGEN

Translated by Ernest Untermann

THE POSITIVE OUTCOME OF PHILOSOPHY

PREFACE

As a father cares for his child, so an author cares for his product. I may be able to give a little additional zest to the contents of this work by adding an explanation how I came to write it.

Although born by my mother in 1828, I did not enter my own world until "the mad year," 1848. I was learning the trade of my father in my paternal shop, when I saw in the "Kölnische Zeitung," how the people of Berlin had overcome the King of Prussia and conquered "liberty." This "liberty" now became the first object of my musings. The parties of that period, the disturbers and howlers, made a great deal of fuss about it. But the more I heard about it, and hence became enthusiastic over it, the duller, hazier and more indistinct became the meaning of it, so that it turned things upside down in my head. The psychologists have long known that enthusiasm for a cause and understanding of that cause are two different things. Mark, for instance, the zeal displayed by Catholic peasants in singing their mass, although they do not understand a word of Latin.

What is meant by political freedom? What is its beginning, what its end? Where and how are we to find a positive and definite knowledge of it? In the parties of

the middle, the so-called "constitutionals," as well as among the bourgeois democrats, there was no end of dissension. Nothing could be learned there. Among them, as among the Protestants, every one was a chosen interpreter of the gospel.

However, the papers of the extremes, that is, the "Neue Preussische" with its "For God, King and Fatherland," and the "Neue Rheinische," the organ of "Democracy," gave me a hint that liberty had some sort of a material basis. During the following years, my life in rural surroundings gave me leisure to follow this scent. On one side, it was the work of men like Gerlach, Stahl, and Leo, on the other of Marx and Engels, that gave me a foothold.

Though the communists and the ultra-conservatives came to widely different conclusions, still I felt and read between the lines that both of these extreme parties based their demands on one fundamental premise. They knew what they wanted; they both had a definite beginning and end. And that permitted the assumption that both had a common philosophy. The Prussian landholding aristocracy based the cross, which they wore as an emblem on their hats, on the historically acquired royal military power and on the positive divine revelation of the Bible printed in black and supported by the ecclesiastical police force dressed in black. And the Communist point of departure was quite as positive, unquestionable and material, viz., the growing supremacy of the mass of the people with their proletarian interests based on the historically acquired productive power of the working class. The spirit of both of these hostile camps was descending from the results of philosophy, primarily from the Hegelian school. Both of them were armed with the

philosophical achievements of the century, which they had not only mechanically assimilated, but rather continually provided with fresh food like a living being.

In the beginning of the fifties, a pamphlet was published by one of the cross bearers, Stahl, entitled "Against Bunsen." This Bunsen was at the time the Prussian Ambassador at London, a crony of the ruling Prussian King Frederic William IV., and, apart from this, nothing but a liberal muddle head who was interested in political and religious tolerance.

The pamphlet of the cross bearer Stahl attacked this tolerance and demonstrated valiantly that tolerance could be preached only by a muddled free lance to whom religion and fatherland were indifferent conceptions. Religious faith, so far as it is truth, so he said, has a true power and can transpose mountains. Such a faith could not be tolerant and indifferent, but must push its propaganda with fire and sword.

In the same way in which Stahl defended the interests of the landed aristocracy, the philosopher Feuerbach spoke in the interest of the infidel revolutionaries. Both of them were to that extent in accord with the "Communist Manifesto" that they no longer regarded Liberty as a phantasmagoria, but as a being of flesh and blood.

When I had realized this, it dawned upon me that any conception elucidated by philosophy, in this case the idea of liberty, had this peculiarity: Liberty is as yet an abstract idea. In order to become real, it must assume a concrete, special form.

Political freedom as a glittering generality is a thing of no reality. Under such fantastic ideal the constitutionalists or the liberals conceal the liberty of the money bag. Under these circumstances, they are quite right in

demanding German unity with Prussia as a head, or a republic with a grand duke at the top. The landed aristocracy also are right in demanding the liberty of that aristocracy. And the Communists are still more right, for they demand the liberty that will guarantee bread and butter for the mass of the people and will fully set free all the forces of production.

From this experience and conclusion it follows that true liberty and the highest right are composed of individual liberties and rights, that are opposed to one another without being inconceivable. It is easy to proceed from this premise to the rule of thought laid down in this work, that the brain need not make any excursions into the transcendental in order to find his way through the contradictions of the real world.

In this way I passed from politics to philosophy, and from philosophy to the theory of positive knowledge which I presented to the public in 1869 in my little work "The Nature of Human Brain Work." Further studies on the general powers of understanding have added to my special knowledge of this subject, so that I am now enabled to fill the old wine into a new bottle instead of publishing a new edition of my old work.

The science which I present in the following pages is very limited in its circumference, but all the better founded and important in its consequences. This, I trust, will be accepted as a sufficient excuse for the recurring repetition of the same statements in a different form. My remaining confined to a single point requires no apology. What is left undone by one, is bequeathed as a problem to others.

There might be some dispute over the question, how much of this positive achievement of philosophy is due

to the author and to his predecessors. But that is an interminable task of small concern. No matter who hoisted the calf out of the well, so long as it is out. Anyway, this whole work treats of the concatenation and interdependence of things, and this also throws a bright light on the question of mine and thine.

J. DIETZGEN.

CHICAGO, March 30, 1887.

THE POSITIVE OUTCOME OF PHILOSOPHY

I

POSITIVE KNOWLEDGE AS A SPECIAL OBJECT

That which we call science nowadays was known to our ancestors by a name which then sounded very respectable and distinguished, but which has in the meantime acquired a somewhat ludicrous taste, the name of wisdom. This gradual transition of wisdom into science is a positive achievement of philosophy which well deserves our attention.

The term "ancestors" is very indefinite. It comprises people who lived more than three thousand years ago as well as those who died less than a hundred years ago. And a wise man was still respected a hundred years ago, while to-day that title always implies a little ridicule and disrespect.

The wisdom of our ancestors is so old that it has not even a date. It reaches back, the same as the origin of language, to the period when man developed from the animal world. But if we call a wise man, in the language of our day, a philosopher, then it is at once plain that wisdom is descended from the ancient Greeks. This wonderful nation produced the first philosophers.

Whether this term indicates a man who loves wisdom or one who loves science, is of little moment to-day, and

there was no such distinction in ancient times. We remember that it was entirely undecided among the Greeks whether a mathematician, an astronomer, a physician, an orator, or a student of the art of living deserved the title of a philosopher. These professions were not clearly distinguished. They were wrapped up one in another like the embryo in a mother's womb. While humanity had still little knowledge, a man might well be wise. But to-day it is necessary to specialize, to devote one's self to a special science, because the field of exploration has grown so extended. The philosopher of to-day is no longer a wise man, but a specialist.

The stars are the objects of astronomy, the animals of zoology, the plants of botany. Who and what are now the objects of philosophy? This may be explained in one word to an expert. But if we try to give information to the general public, the matter becomes difficult.

What do I know about the shoe industry, if I know that it produces shoes? I know something general about it, but I have no knowledge of its details. It is impossible to give sufficient information on the details of shoemaking to any one in a few words, not even to an educated person. Neither is it possible to explain the object of philosophy in such a way. The object may be stated, but not explained, for it cannot be made plain and brought home to the understanding in a few words.

That is the word, understanding. The understanding is the object of philosophy.

We must at once call the reader's attention to the ambiguity of this term. Understanding, knowledge, is the object of all science. That is nothing special. Every study seeks to enlighten the brain. But philosophy wishes to be a science and does not desire to relapse into

antiquity by becoming universal wisdom. To say that understanding is the object of philosophy is to give merely the same reply which Thales, Pythagoras, or Plato would have given. Has proud philosophy gained nothing since? What is its positive achievement? That is the question.

Philosophy to-day still has understanding for its object. But it is no longer indefinite understanding which tries to embrace everything, but rather the understanding of the method by which knowledge may be gained. Philosophy now wishes to learn *how it comes to pass* that other objects may be illumined by the mind. To speak plainly, it is no longer the understanding which seeks to know everything as it did at the time of Socrates that is now the special study of philosophy, but rather the mind itself, its method and the perceptive powers of thought and understanding.

If this were all, if the world's wise men had done nothing but to at last find the object of philosophy, it would be a very scanty achievement. No, the harvest is much richer. The present day theory of human understanding is a real science, which well deserves to be popularized. Our ancestors sought understanding after the manner of Socrates and Plato in the entrails of the human brain, while at the same time despising the experience outside of it. They hoped to find truth by cudgeling their brain. "Honor to Socrates, honor to Plato; but still more honor to Truth!"

Aristotle showed a little more interest in the outer world. With the downfall of the old social stage the old philosophy naturally succumbed also. It did not revive until a few hundred years ago, at the beginning of modern times.

A short while ago, Shakespeare attracted much attention, when some one claimed to have discovered that it was not he who wrote those famous dramas and tragedies, but his contemporary Bacon of Verulam, Lord Chancellor of England. Whether Shakespeare keeps his laurels or not, Bacon's name is still great enough, for it is generally accepted as the mile stone of modern philosophy.

One might say that philosophy was asleep from the time of Aristotle to that of Bacon. At least it produced no remarkable results during that period, and it cannot be denied that philosophy from ancient Greek days to the present times moved in a mystic fog which detracted much from its study in the eyes of educated and honest men. But the philosophers themselves are less to blame for this than the concealment of the object. Only after the entire social development has furthered the human understanding to the point where it can benefit from the light spread by the various branches of science, does philosophy become conscious of its special object and able to separate its positive achievements from the rubbish of the past.

If we compare the old Grecian wisdom with modern science, the outcome of philosophy looks insignificant by the side of the achievements of science. Nevertheless, great as the value of the aggregate product of science may be, it is composed of individual values, and every one of its parts is worthy of consideration. The method, the way, the form, in which the mind arrives at its practical creations is one of these parts. The mind, on its march from ignorance to its present wealth has not only gathered a treasury of knowledge, but also improved its methods, so that the further constructive work of sci-

ence proceeds faster now. Who will fail to recognize that material production has accumulated a treasure in the methods by which it produces to-day, which is by no means of less value than the accumulated national wealth itself? The positive outcome of philosophy bears the same relation to the wealth of science.

II

THE POWER OF COGNITION IS KIN TO THE UNIVERSE

The way of Truth, or the true way, is not musing, but the conscious connection of our thoughts with the actual life—that is the quintessence of the teachings of philosophy produced by evolution. But this is not everything. If I know that a tanner makes leather, I do not by any means know everything he does, because there still remains the manner and method of his manipulations. In the same way, the doctrine of the interrelation of mind and matter, which is the product of the entire social development, requires a better and more specific substantiation, so that its true quality as a positive achievement of philosophy, or of the theory of knowledge may be better understood. If the matter is represented in this bare manner—it does, indeed, resemble the egg of Columbus—one does not see why so much should be made of it. But if we enter into the details that have produced the result, we do not only learn to better respect the prominent philosophers, but their works also reveal a rich mine of special and comprehensive knowledge.

All sciences are closely related, for advances in one branch are preparations for advances in others. Astronomy is unthinkable without mathematics and optics. Every science has begun unscientifically, and in the course of the accumulation of individual knowledge a more or less exact systematic organization of this knowledge has resulted. No science has as yet arrived at completeness and perfectness. We have as yet more the results of experimental effort than accomplished perfection. Philosophy is no better off in this respect. We rather believe we are doing something to overcome a deeply rooted prejudice when we state that philosophy is no worse off than other sciences, so long as we succeed in ascertaining that it has accomplished positive results and in pointing them out.

It is a positive accomplishment of philosophy that mankind to-day has a clear and unequivocal conception of the necessity of the division of labor as a means of being successful. Our present day philosophers no longer make excursions into dreamland in the quest of the True, the Beautiful, and the Good, as did the ancients. The True, the Beautiful, and the Good, are nevertheless the objects of all modern science, only, thanks to evolution, these objects are now sought by special means. And the clear consciousness of this condition of things is a philosophical consciousness.

It is a part of the theory of understanding to know that in order to accomplish something one must limit oneself to a specialty. That is a fundamental demand for the use of common sense, which the primitive musing brain did not realize. Thinking must be done with wide open and active eyes, with alert senses, not with closed eyes or fixed gaze. This is a part of logic. We do not

deny that men have always done their thinking by means of the senses. We only claim that they did not do so from principle, otherwise the old complaint about the unreliability of the senses as a means of knowledge would not have lived so long. Neither would the inner man have been so excessively overestimated, nor abstract thought so much celebrated, just as if it alone were the child of nobler birth. I do not wish to detract from the merits of the power of abstraction, but I simply claim that the clay of which Adam was made was no less divine than the spiritual breath that gave him his life. Nor do I mean that it is due to philosophy alone that mankind learned not to strain "understanding" in abstract vaporings, but instead to introduce the division of labor and to take up the various specialties with open senses. The technique of understanding is the product of the entire movement of civilization, and as such a positive accomplishment of philosophy. The total process of evolution has placed the philosophers on their feet.

There is no doubt that up to the present time, philosophy partook more of the character of a desire and love of science than of world wisdom. This wisdom does not amount to much, even to-day. This is plainly demonstrated by the dissensions of the educated and uneducated on all questions pertaining to wisdom of life. Socrates in the market of Athens, and Plato in his dialogues, have probably said better things about the questions: "What is virtue? What is justice? What is moral and reasonable?" than the professors of philosophy would know how to say to-day. Kant has well said that the unanimity of the experts is the test by which one may decide what is a scientific fact and what is mere dispute. **From** this it is easy to judge that wisdom of life is still

in a bad way and will have to wait for its scientific transformation.

We declared understanding itself to be the special object of philosophy and shall now attempt to outline the results so far obtained by it.

One of the first requirements for the education of the object of philosophy is to recall its various names. The understanding, or the power of knowledge, is also called intelligence, intellect, mind, spirit, reason, power of cognition, of conception, of distinction, of imagination, of judgment, and of drawing conclusions. The attempt has frequently been made to analyze understanding or to dissect it into its various parts and to specialize them by the help of those names. Especially logic knows how to give particular explanations of what is imagination, a conception, a judgment, and a conclusion. It has even divided these sections into subsections, so that a trained logician might reproach me with being ignorant for applying various names to intelligence, because only the common people confound those names and use them as synonyms, while science has long used them in their proper order for designating special parts of intelligence.

To such a reproach, I answer that Aristotle and the subsequent formal logicians have made some pretty pointed observations and excellent arrangements in this field. But these proved to be premature or inadequate, because the observations on which the ancient intellectual explorers relied were too scanty. This scantiness of the observations made in regard to intelligence, and by intelligence, has kept the human race in the mazes of intellectual bondage and by this mysticism has even prevented the most advanced minds from penetrating deeper into this obscure question. The history of philosophy is

not the history of a useless struggle, but yet a history of a hard struggle with the question: What is, what does, of what parts consists, and of what nature is understanding, intelligence, reason, intellect, etc.? So long as this question is unsettled, the questioner is entitled to dispense with any and all sections and subsections of the intellectual object and to regard the various names as synonymous.

The main accomplishment in the solution of this question is the ever clearer and preciser knowledge of our days that the nature of the human intellect is of the same kind, genus or quality as the whole of nature. In order that the theory of understanding may be able to elucidate this point, it must divest itself, more or less, of the character of a speciality and occupy itself with all of nature, assume the character of cosmogony.

It is principally an achievement of philosophy that we now know definitely and down to the minutest detail that the human mind is a definite and limited part of the unlimited universe.

Just as a piece of oak wood has the twofold quality of partaking not alone, with its oaken nature, of the general nature of wood, but also of the unlimited generality of all nature, so is the intellect a limited specialty, which has the quality of being universal as a part of the universe and of being conscious of its own and of all universality. The boundless universal cosmic nature is embodied in the intellect, in the animal as well as in man, the same as it is embodied in the oak wood, in all other wood, in all matter and force. The worldly monistic nature which is mortal and immortal, limited and unlimited, special and general, all in one, is found in everything, and every-

thing is found in nature—understanding or the power of knowledge is no exception.

It is this twofold nature of the universe, this being at the same time limited and unlimited, this reflection of its eternal essence and eternal truth in changing phenomena, which has rendered its understanding very difficult for the human mind. This intricate quality has been represented by religion in the fantastic picture of two worlds, separating the temporal from the eternal, the limited from the unlimited, too unreasonably far. But nowadays the indestructibility of matter and the eternity of material forces is a matter of fact accepted by natural science.

The positive outcome of philosophy, then, is the knowledge of the monistic way in which the seeming duality of the universe is active in the human understanding.

III

AS TO HOW THE INTELLECT IS LIMITED AND UNLIMITED

Understanding taught by experience no longer muses about universal nature, but acquires a knowledge of it by special studies. By degrees philosophy, first unconsciously and lately clearly and plainly, has taken up the problem of ascertaining the limits of understanding.

This philosophical problem first assumed the form of polemics. It became opposed to the religious dogma which represented the human mind as a small, subservient, limited and restricted emanation of the unlimited divine spirit. This terrestrial emanation was regarded

as too limited to understand and find its divine source. The study of the limits of the understanding has now emancipated itself from this dogma, but not to such an extent that there is no longer any mysterious obscurity floating around the understanding and intelligence, and especially around the question whether the human mind can penetrate only into some things while others will remain in the unscrutable darkness of faith and intuition, or whether it may penetrate boldly and without hindrance into the infinity of the physical and chemical universe.

We here desire to claim as a positive outcome of philosophy that it has at last acquired the clear and exact knowledge that a so-called infinite spirit, in the religious sense, is a fantastic, unscientific conception. In the natural sense of the word, the human powers of understanding are universal and yet in spite of their universality they are, quite naturally, limited. The human understanding has its limits, why should it not? Only drop the illusion that a dark mystery is concealed beyond these limits.

The understanding is a force among others, and everything that is located alongside of other things is limited and restricted by them. We can understand everything, but we can also touch, see, hear, feel, and taste everything. We also have the power of moving about, and other qualities. One art limits another, and yet each is unlimited in its own field. The various human powers belong together and constitute together the human wealth. Be careful not to separate the power of understanding from other natural powers. In a certain sense it must be separated, because it is the special object of our study, but it must always be

remembered that such a separation has only a theoretical value.

Just as our power of vision can see everything, so our understanding can grasp everything.

Let us look a little closer at this statement.

How can we see everything? Not from any single standpoint. In that sense our powers of vision are limited. But what is not visible in the distance, becomes so on approaching nearer to it. What one eye cannot see, that of others can, and what is invisible to the naked eye, is revealed by the telescope and microscope. Nevertheless the vision remains limited, even though it may be the sharpest, and armed with the best artificial means. Even if we regard all the eyes of the past and future generations of humanity as organs of the universal human vision, this vision still remains limited. Nevertheless, no one will complain about the limits of human power, because we cannot see sounds with our eyes or hear the light with our ears.

The understanding of man is limited, just as his vision is. The eye can look through a glass pane, but not through a plate of iron. Yet no one will call any eye limited, because it cannot see through a block of metal. These drastic examples are very opportune, because there are certain wise men who reflectively lay their finger on their nose and call attention to the limits of our intellect in that sense, just as if the knowledge gained on earth by scientific means were only a nominal, not a real, understanding and knowing. The human intellect is thus degraded to the position of a substitute of some "higher" intellect which is not discovered, but must be "believed" to exist in

the small head of a fairy or in the large head of an almighty being above the clouds. Would any one try to make us believe that there is a great and almighty eye that can look through blocks of metal the same as through glass? The idea of a spiritual organ with an infinite understanding is just as senseless. An unlimited single thing, an unlimited single being, is impossible, unless we regard the whole world, the world without beginning and without end, the infinite world, as a unit. Within this world everything is subject to change, but nothing can go beyond its genus without losing its name and character. There are various kinds of fire, but none that does not burn, none which has not the general nature of fire. Neither is there any water without the general nature of water, nor a spirit that is elevated above the general nature of spirits. In our days of clear conceptions the tendency toward the transcendental is mere fantastic vaporing.

It is not alone unscientific, it is fantastic, to think even afar of a higher power of thought or understanding than the human one. One might as well think of a higher horse which runs with eight, sixteen, or sixteen hundred legs and carries away his rider in a higher air at a higher speed than that of the wind or the light.

It is a part of the achievements of philosophy, of correct methods of thought, of the art of thought or dialectics, to know that we must use all conceptions, without exception, in a limited, rational, commonplace way, unless we wish to stray into that region where there are mountains without valleys and where every theory of understanding loses its mind.

It is true that all things, including our understanding, may be improved. Everything develops, why should not our intellects do so? At the same time we may know *a priori* that our intellect must remain limited, of course not limited in the sense of the dunce, just as our eyes will never become so sharp that they can see through metal blocks. Every individual has its limited brain, but humanity, so the positive achievements of philosophy have shown, has an intellect of as universal a power as any that can be imagined, required, or found, in heaven or on earth.

We maintain that philosophy so far has acquired something positive, has left us a legacy, and that this consists in a clear revelation of the method of using our intellect in order to produce excellent pictures of nature and its phenomena.

For the purpose of making the reader familiar with this method, with this legacy of philosophy, we must enter more closely into the essence of the instrument which lifts all the treasures of science. We are especially interested in the question, whether it is a finite or infinite and universal instrument with which we go fishing for truth. It is the custom to belittle the faculties of the human understanding, in order to keep it under the supremacy of the divine metaphysical augurs. It is quite easy to see, therefore, that the question of the essence of our powers of understanding is intimately related to, or even identical with, the question of how we may be permitted to use them, whether they should be used only for the investigation of the limited, finite, or also for the study of the eternal, infinite, and immeasurable.

We object here to the tendency of belittling the

human mind. About a hundred years ago, the philosopher Kant found it appropriate to draw the sword against those who played fast and loose with the human mind, against the so-called metaphysicians. They had made a miraculous thing of the instrument of thought, a matter for effusions. In order to be able clearly to state the outcome of philosophy, we must acquaint the reader with the fact that this instrument of thought, in its way, is one of the best and most magnificent things in existence, but that, at the same time, it is bound to its general kind or genus. The human understanding perceives quite perfectly, but we must not have an exaggerated idea of its perfection, any more than we would of a perfect eye or ear, that, be they ever so perfect, cannot see the grass grow or hear the fleas cough.

God is a spirit, says the bible, and God is infinite. If he is a spirit, an intellect, such as man, then it would be fair to assume that man's intellect is also infinite, or even is the divine spirit itself which has taken up its abode in the human brains. People cudgeled their brains with such confused conceptions, so long as the object of modern philosophy, the intellect, was a mystery. Now it is recognized as a finite, natural phenomenon, an energy or a force which is not the infinite, though it is, like all other matter and force, a part of the infinite, eternal, immeasurable.

Leaving all religious notions aside, the infinite, immeasurable, eternal, is not personal, but objective; it is no longer referred to as a masculine, but as a neuter. It may be called by many names, such as the universe, the cosmos, or the world. In order to understand clearly that the spirit which we have in our minds, is a finite part of the world, we must get a little better

acquainted with this infinite, eternal world. Our physical world cannot have any other world beside it, because it is the universe. Within the universe there are many worlds, which all of them make out the cosmos, which has neither a beginning nor an end in time and space. The cosmos reaches across all time and space, "in heaven and on earth, and everywhere."

But how do I know what I state in such an offhand manner? Well, the knowledge of the universe, of the infinite, is given to us partly by birth and partly by experience. This knowledge is inherent in man just as language is, viz., in the germ, and experience gives us a proof of the infinite in a negative way, for we never learn the beginning or the end of anything. On the contrary, experience has shown us positively that all so-called beginnings and ends are only interconnections of the infinite, immeasurable, inexhaustible, and unfathomable universe. Compared to the wealth of the cosmos the intellect is only a poor fellow. However, this does not prevent it from being the most perfect instrument for clearly and plainly reflecting the finite phenomena of the infinite universe.

IV

THE UNIVERSALITY OF NATURE

The positive outcome of philosophy concerns itself with specifying the nature of the human mind. It shows that this special nature of mind does not occupy an exceptional position, but belongs with the whole of nature in the same organization. In order to show

this, philosophy must not discuss the human mind as if it were something separate from nature, but must rather deal with its general nature. And since this general nature of our intellect is the same of which every other thing partakes, it follows that nature in general, or the universe, or the cosmos, all of which is the same thing, are an indispensable object in the special study of the nature of the human mind.

We have already said that the experienced understanding of the present day no longer muses over nature in general in the fantastic and mere introspective manner as of old, but rather seeks to obtain a knowledge of it by special study. In so doing we do not forget that the study of specialties at the same time throws a light on the general relation of things, of which every species is but a part.

Since the human mind is a part of the whole of nature, viz., that part which has the desire and longing to obtain a conception of all the other parts, and more than that, to understand the interconnection between the parts and the undivided and infinite whole, it is easy to comprehend the fact that the philosophers have occupied themselves so much with the most real and most perfect being. Whether this being was called God, or substance, or idea, or the absolute, or nature, or matter, all of these terms cannot prevent us today from approaching infinite nature with sober senses, in order to gain, by its help, a lifelike picture of the human intellect, which is not a mystical being, but a reasonable part of the same nature that lives reasonably and intelligibly in all other parts of nature.

The inexperienced powers of distinction which did not understand their function, magnified the difference

between the infinite and its finite phenomena out of all proportion. Now that we have made the philosophical experience that the general as well as the special nature of the human intellect admits only of moderate and bounded distinctions, we arrive at the conclusion that the immeasurable, all-perfect, and eternal being is composed of finite, commensurable, imperfect, and transient things in such a way that the universal being combines in itself all perfections as well as all imperfections. This contradictory universal being, this nature to which all contradictory attributes may be simultaneously assigned, in a certain sense puts the old rule to shame that you cannot at the same time affirm and deny the predicate of any subject.

Nature comprises all and is all. Reason and unreason, being and not being, all these contradictions are contained in it. Outside of it there are no affirmations and no contradictions. Since the human mind eternally moves in affirmations and negations, in order to obtain a clear picture of things, it has an interminable task in understanding the interminable object.

Our brain is supposed to solve the contradictions of nature. If it knows enough about itself to realize that it is not an exception from general nature, but a natural part of the same whole—although it calls itself "spirit"—then it also knows and must know that its clearness can differ but moderately from the general confusion, that the solution of the problem cannot differ materially from the problem itself. The contradictions are solved only by reasonable differentiation, only by the science of understanding which shows that extravagant differences are nothing but extravagant

speculations. The human understanding inclines to exaggerations in its untrained state, and it is a relic of untrained habits to differentiate in an absolute manner the spiritual from the rest of nature, to make a too extravagant distinction between it and the physical body. It is the merit of philosophy to have given us a clear doctrine of the use of the intellect, and this doctrine culminates in the rule not to make exaggerated, but only graduated distinctions. For this purpose it is necessary to realize that there is only one being and that all other so-called beings are but minor expressions of the same general being, which we designate by the name of nature or universe.

In consequence of the human bent to exaggeration, the human understanding has been regarded as a being of a different nature from that of natural beings which exist outside of the intellect. But it must be remembered that every part of nature is "another" individual piece of it, and, furthermore, that every other and different part is really nothing different but a uniform piece of the same general nature. The thing is mutual: The general nature exists only in its many individual parts, and these in their turn exist only in, with and by the general cosmic being.

Nature which is divided by the human understanding into East and West, South and North, and into a hundred thousand other named parts, is yet an undivided whole of which we may say with certainty that it has as many innumerable beginnings and ends as it is without beginning and end, as it is the infinite itself. It is well known that there is nothing new under the sun. Nothing is created, nothing disappears, and yet there is a continuous change.

The brain of man has a right and a left side, a top and a bottom, a front and a back part, an interior and an exterior. And the innermost of the brain again has two sides or qualities, a physical and a spiritual. They are so little divided that the term brain has two meanings, designating now the physical brain, now its mental functions. In speaking here exclusively of the mind, we tacitly assume its inseparable connection with the physical body.

The material brain and the mental brain are two brains that together make one. Thus two, three, four, or innumerable things are yet one thing. The human understanding was endowed by nature with the faculty of embracing the infinite variety of the universe as a unit, as a single conception. The unity of nature is as true and real as its multiplicity. To say that many are one and one many is not nonsense, but simply a truism which becomes clear when understanding the positive outcome of philosophy.

A reader unfamiliar with this our product of philosophy still follows the habit of regarding the physical body as something different from the mind. A distinction between these two is quite justified, but this manner of classification must not be overdone. The reader should remember that he also is in the habit of regarding such heterogeneous things as axes, scissors, and knives as children of the same family by referring to them collectively as cutting tools. The outcome of philosophy now demands that we apply the same method to the object of our special study, the human brain. We must henceforth eschew all effervescent flights of imagination and regard the powers of the

human mind as children of the same family as all other physical powers, whose immortal mother is the universe.

The universe is infinite not alone in the matter of time and space, but also in that of the variety of its products. The human brains which it produces are likewise internally and externally of an infinite differentiation, although this does not prevent them from forming a common group uniform in its way.

To group the phenomena of nature, the children of the universe, in such a way by classes, families, and species that they may be easily grasped, that is the task of the science of understanding, the work and constitution of the perceiving human brain. To understand simply means to obtain a general and at the same time a detailed view of the processes and products of the universe by grouping them in a fashion similar to that used for the vegetable kingdom by botany and for the animal kingdom by zoology. It goes without argument that we, the limited children of the unlimited universe, are able to solve this problem only in a limited way.

However, this natural physical limitation of the human understanding must not be confounded with the abject misery which slavish and sentimental metaphysics attribute to it. The infinite universe is by no means niggardly in its gifts to the human understanding. It opens its whole depths to our intellectual understanding and perception. Our intellect is a part of the inexhaustible universe and therefore partakes of its inexhaustible nature. That part of nature which is known by the name of intellect is limited only to the extent that the part is smaller than the whole.

V

THE UNDERSTANDING AS A PART OF THE HUMAN SOUL

The human intellect or understanding, the special object of all philosophy, is a part, and in our case the most prominent part, of the human soul. Gustav Theodore Fechner, a forgotten star on the literary firmament, posed the question of the soul in his time and attempted to answer it. In so doing he clothed the result of past philosophies in a peculiar garb which looked fantastic enough at first sight. He regards the outcome of philosophy merely as an individual product and he is so full of veneration for the ancient terms, such as *immortal souls*, *God*, *Christianity*, that he does not care to dismiss them, no matter how roughly he handles their essence.

Fechner extends the possession of a soul to human beings, animals, plants stones, planets; in short, to the whole world.

This is simply saying that the human soul is of the same nature as all the rest of the world, or vice versa, that all natural things have the same nature as the human soul. Not only animals, but also stones and planets have something analogous to our human soul.

Fechner is not fantastic at bottom, and yet how fantastical it sounds to hear him say: "I went out walking on a spring morning. The fields were green, the birds were singing, the dew sparkled, the smoke rose toward the clouds. Here and there a human being stirred. A glory of light was diffused over it all. It was only a small piece of the Earth. It was only

a short moment of its existence. And yet, as I took all this in with an ever-widening understanding, I felt not alone the beauty, but also the truth that it is an angel who is thus passing through the sky with his rich, fresh and blooming nature, his living face upturned to the heavens. And I asked myself how it is that man can ever become so stunted that he sees nothing but a dry clod in the Earth and looks for angels above and beyond it, never finding them anywhere. But people call this sentimental dreaming."

"The Earth is a globe, and what it is besides may be found in the museums of natural history." Thus writes Fechner.

Now there can be no objection to comparing the beautiful Earth and the stars around it with angels, any more than there can be to the lover calling his sweetheart an angel of God. The Earth, the Moon, and the stars are according to Fechner's terminology angelic beings with souls; mediators between man and God. He knows very well that this is nothing but a matter of analogy and terminology, he is as atheistic as the most atheistic, but his fondness and reverence for the traditional terms lead him to attribute a soul to the material world and to give to this great and infinite soul a divine name.

If we waive this religious hobby of Fechner's, there still remains his peculiarity of using words and names in a symbolical sense. It is nothing but the old poetic way of calling a sweetheart's eyes heavenly stars and the stars of the blue heavens lovely eyes, which makes a snowy hill of a woman's breast, a zephyr of the wind, a nymph of a spring of water, and an erlking of an old willow tree. This poetic license has filled the whole

world with good and evil spirits, mermaids, fairies, elves, and goblins.

This is not a bad way of speaking, so long as we keep in mind, like a poet, what we are doing and that we are consciously using symbolical terms. Fechner does this only to a certain extent. A little spleen remains in his brain. It is this spleen which I intend to deal with in the proper light, in order to thus demonstrate the outcome of philosophy.

Fechner is not aware that his universal soul reflects only one half of our present outcome of philosophical study. The other half, which renders an understanding of the whole possible, consists in the perception that not only are all material things endowed with a soul, but that all souls, including the human ones, are ordinary things.

Philosophy has not only deified the world and inspired it with a soul, but has also secularized God and the souls. This is the whole truth, and each by itself is only a part.

Apart from psychology, which treats of the individual human soul, there has lately arisen a "psychology of nations" which regards the individual souls as parts of the universal human soul, as individual pieces constituting an aggregate soul which, decidedly, is more than a simple aggregation of numbers. The soul of the psychology of nations has the same relation to the individual souls that modern political economy has to private economy. Prosperity in general is a different question and deals with different matters than the amassing of wealth for your individual pocket. Granted that the national soul is essentially different from the individual soul, what would be the nature of

the universal animal soul, including the souls of lions, tigers, flies, elephants, mice, etc.? If we now extend the generalization farther and include in our psychology the vegetable and the mineral kingdom, the various world bodies, our solar system, and finally the whole universe, what else could that signify than a mere rhetorical climax?

Mere generalization is one-sided and leads to fantastical dreams. By this method one can transform anything into everything. It is necessary to supplement generalization by specialization. We wish to have the elephants separated from the fleas, the mice from the lice, at the same time never forgetting the unity of the special and the general. This sin of omission has often been committed by the zoologists in the museums and the botanists in their plant collections, and philosophical investigators of the soul like Fechner have drifted into the other extreme of generalization without specialization.

The positive outcome of philosophy, then, in its abstract outline, is at present the doctrine that the general must be conceived in its relation to its special forms, and these forms in their universal interconnection, in their qualities as parts of nature in general. True, such an abstract outline reveals very little. In order to grasp its concrete significance, we must penetrate into its details, into the special aspects of this doctrine.

The title of "Critique of Reason," which Kant gave to his special study, is at the same time a fitting term for all philosophical research. Reason, the essential part of the human soul, raises the critique of reason,

the science of philosophy, to the position of the most essential part of psychology.

But why do we call this the most essential part? Is not the material world and its understanding as essential as reason, as intellect, which bends to the task of exploring this world? Surely, it is, and I do not use the word essential in this sense. I call the intellect the most essential part of the soul, and the soul the most essential part of the world, only in so far as these parts are the special condition of all scientific study and because the investigation of the general nature of scientific study is my special object and purpose. Whether I endeavor to explain the general nature of scientific study, whether I investigate the intellect or the theory of understanding, it all amounts to the same thing.

Let us approach our task once more from the side of Fechner's universal soul. With his extravagant animation of all things, with his plant, stone, and star souls, he can help us to prove that the general nature of that particle of soul which is called reason, intellect, spirit, or understanding, is not so extraordinarily different from the general nature of stones or trees as the old time idealists and materialists were wont to think.

As I said before, Fechner is a poet, and a poet sees similarities which a matter-of-fact brain cannot perceive. But at the same time we must admit that the matter of fact brain which cannot see anything but mere distinctions is a very poor brain. The philosophers before me have taught me that a good brain sees the similarities and the differences at the same time and knows how to discriminate between them. A sober poetry and the combination of poetic qualities

with a comprehensive and universal levelheadedness and discrimination, these are the marks of a good head. Still the poorest as well as the most talented brains partake of the general brain nature, which consists in the understanding that like and unlike, general and special, are interrelated. The one is never without the other, but both are always together.

If the distinction between men and stones is so trifling that a talented brain like Fechner's can justly speak of them both as being animated, surely the difference between the body and soul cannot be so great that there is not the least similarity and community between them. However, this escaped Fechner's notice. Is not the air or the scent of flowers an ethereal body?

Reason is also called understanding, and it is a positive achievement of philosophy to have arrived at the knowledge that this understanding does not admit of any exaggerated distinctions. In other words, all things are so closely related that a good poet may transform anything into everything. Can natural science do as much? Ah, the gentlemen of that science are also progressing well. They transform dry substance into liquid, and liquid into gas; they change gravity into heat and heat into mechanical power. And they are doing this without forgetting to discriminate, as happened to our Fechner.

It is not enough to know that the body has a soul and the soul a body, not enough to know that everything has a soul. It is also necessary to discriminate between the peculiarities and details of the human, animal, plant, and other souls, taking care not to ex-

aggerate their differences to the extreme of making them senseless.

We do not intend to follow this theory of a universal soul any further. Fechner declares himself that "it must be admitted at the outset that the whole question of a soul is a question of faith." . . . "Analogy is not a convincing proof." . . . "We can no more prove the existence of a soul than we can disprove it."

However, from the time of Cartesius it has been an accepted fact in the world of philosophers that the consciousness of the human soul is the best proof of its existence. The most positive science in the world is the empirical self-observation of the thinking soul. This subject is the most conspicuous object imaginable, and it is the positive outcome of philosophy to have given an excellent description of the life and actions of this soul particle called consciousness or understanding.

If the understanding is a part of the human soul and this soul an evident and positive part of the universal life, then, clearly, everything partaking of this life, such as pieces of wood and stones scattered around, is related to this soul. Individual human souls, national souls, animal souls, pieces of wood, lumps of stone, world bodies, are all children of the same common universal nature. But there are so many children that they must be classified into orders, classes, families, etc., in order to know them apart. On account of their likeness, the souls belong together in one class and the bodies in another, and each requires more detailed classification. Thus we finally arrive at the class of human souls forming a depart-

ment by themselves, because they all have a common general character.

The manufacturers know that the work of ten laborers produces more and is of a different quality than the work of a single laborer multiplied by ten. Likewise the general human soul, or any national soul, expresses itself differently from the sum of the various individual souls composing it. More even, the very individual soul differs at various times and places, so that the individual soul is as manifold as any national soul.

"Has the plant a soul? Has the earth a soul? Have they a soul analogous to that of man? That is the question." Thus asks Fechner.

Just as my soul of today has something analogous to my soul of yesterday, so it has also with the soul of my brother, and finally with the souls of animals, plants, stones, etc., proving that everything is more or less analogous. A herd of sheep is analogous to yonder flock of small, white clouds in the sky, and a poet has the license to call those small clouds little sheep. In the same way Fechner is justified in propounding his theory of a universal soul.

Is it not necessary, however, to make a distinction between poetry and truth? My brother's soul and my own are souls in the true sense of the word, but the souls of stones—they are only so figuratively speaking.

At this point I want to call the reader's attention to the fact that we must not pass lightly over the valuation of the difference between the true and the figurative sense of a word.

Words are names which do not, and cannot, have any other function than that of symbolic illustration.

My soul, yours, or any other, are only in conception the same souls.

When I say that John Flathead has the same soul as you and I, my intention is simply to indicate that he has something which is common to you and me and to all men. His soul is made in the image of our souls. But where shall we draw the line in this comparison of images? What is not an image in the abstract, and what is more than an image in the concrete?

Truth and fiction are not totally different. The poet speaks the truth and true understanding partakes largely of the nature of poetry.

Philosophy has truly perceived the nature of the soul, and especially that part of it with which we are dealing, that is, reason or understanding. This instrument has the function of furnishing to our head a picture of the processes of the world outside of it, to describe everything that is around us and to analyze the universe, itself a phenomenon, with all its phenomena as a process of infinite variety in time and space.

If this could be accomplished with the theory of a universal soul, then Fechner would be the greatest philosopher that ever was. But he lacks the understanding that the intellect which has to combine all things within a general wrapper, must also consider the other side of the question, that of specification. That, of course, cannot be achieved by any philosopher. It must be the work of all science, and philosophy as a doctrine of science must acknowledge that.

VI

CONSCIOUSNESS IS ENDOWED WITH THE FACULTY OF KNOWING AS WELL AS WITH THE FEELING OF THE UNIVERSALITY OF ALL NATURE

In the historical course of philosophy, there has been much discussion as to where our knowledge comes from, whether any of it, or how much of it, is innate, and how much acquired by experience. Without any innate faculties no knowledge could have been gathered with any amount of experience, and without any experience even the best faculties would remain barren. The results of science in all departments are due to the interaction of subject and object.

There could be no subjective faculty of vision unless there were something objective to be seen. The possession of a faculty of vision carries with it the practical performance of seeing. One cannot have the faculty of vision without seeing things. Of course, the two may be separated, but only in theory, not in practice, and this theoretical separation must be accompanied by the recollection that the separated faculty is only a conception derived from the practical function. Faculty and function are combined and belong together.

Man does not acquire consciousness, the faculty of understanding, until he knows something, and his power grows with the performance of this function.

The reader will remember that we have mentioned as an achievement of philosophy the understanding of the fact that we must not make any exaggerated distinctions. Hence we must not make any such distinc-

tion between the innate faculty of understanding and the acquired knowledge.

It is an established universal rule that the human intellect knows of no absolute separation of any two things, although it is free to separate the universe into its parts for the purpose of understanding.

Now, if I claim that the conception of the universe is innate in us, the reader must not conclude that I believe in the old prejudice of the human intellect being like a receptacle filled with ideas of the true, the beautiful, the good, and so forth. No, the intellect can create its ideas and concepts only by self-production and the world around it must furnish the materials for this purpose. But such a production presupposes an innate faculty. Consciousness, the knowledge of being, must be present, before any special knowledge can be acquired. Consciousness signifies the knowledge of being. It means having at least a faint inkling of the fact that being is *The* universal idea. Being is everything; it is the essence of everything. Without it there cannot be anything, because it is the universe, the infinite.

Consciousness is in itself the consciousness of the infinite. The innate consciousness of man is the knowledge of infinite existence. When I know that I exist, then I know myself as a part of existence. That this existence, this world, of which I am but a particle with all others, must be an infinite world, does indeed not dawn on me until I begin to analyze the conception of being with an experienced instrument of thought. The reader, in undertaking this work with such an instrument, will at once discover that the conception of the infinite is innate to his conscious-

ness,* and that no faculty of conception is possible without this conception. The faculty of conception, understanding, thought, means above all the faculty of grasping the universal concept. The intellect cannot have any conception which is not more or less clearly or faintly based on the concept of the universe. *Cogito, ergo sum.* I think, therefore, I am. Whatever I imagine is there, at least in imagination. Of course, the imagined and the real thing are different, yet this difference does not exceed the limits of the universal existence. Creatures of fiction and real creatures are not so radically different that they would not all of them fit into the general gender of being. The manner, the form of being, are different. Goblins exist in fiction and Polish Jews exist in a tangible form, but they both exist. The general existence comprises the body and the soul, fiction and truth, goblins and Polish Jews.

It is no more inconceivable that the faculty of universal understanding should be innate in us than that circles come into this world round, two mountains have a valley between them, water is liquid and fire burns. All things have a certain composition in themselves, they are born with it. Does that require any explanation? The flowers which gradually grow on plants, the powers and wisdom that grow in men in the course of years, are no more easily explained than such innate faculties, and the latter are no more wonderful than those acquired later. The best explanation cannot deprive the wonders of nature of their natural marvelousness. It is a mistake to assume that the

*E. g., given with his consciousness.—EDITOR.

faculty of explanation which is located in the human brain, is a destroyer of the belief in natural marvels. Philosophy which makes this faculty of explanation and the nature of its explanations the object of its special study gives us a new and much better understanding of this old miracle maker. It destroys the belief in metaphysical miracles by showing that physical nature is so universal that it absolutely excludes every other form of existence than the natural one from this world of wonders.

I and many of my readers find in our brains the actual consciousness that this general nature of which the intellect is a part is an infinite nature. I call this consciousness innate, although it is acquired. The point that I wish to impress on the reader is that the difference generally made between innate and acquired qualities is not so extraordinary that the innate need not to be acquired and the acquired does not presuppose something innate. The one contradicts the other only in those brains who do not understand the positive outcome of philosophy. Such thinkers do not know how to make reasonable distinctions and exaggerate in consequence. They have not grasped the conciliation of all differences and contradictions in universal nature by which all contradictions are solved.

Philosophy has endeavored to understand the intellect. In demonstrating the positive outcome of philosophy, we must explain that philosophical understanding as well as any other does not rise out of the isolated faculty of understanding, but out of the universal nature. The womb of our knowledge and understanding must not be sought in the human brain, but in all nature which is not only called the universe,

but is actually universal. In order to prove this latter assertion, I refer to the fact that this conception, this consciousness of the infinite in the developed intellect, is in a manner innate. If the reader wishes to object to my indiscriminately mixing the innate faculty with the acquired understanding, I beg him to consider that I am endeavoring to prove that any and all distinction made by the intellect refers in reality to the inseparable parts of the one undivided universe. From this it follows that the admired and mysterious intellect is not a miracle, or at least no greater marvel than any other part of the general marvel which is identical with the infinitely wonderful general nature.

Some people love to represent consciousness as something supernatural, to draw an unduly sharp line of separation between thinking and being, thought and reality. But philosophy, which occupies itself particularly with consciousness, has ascertained that such a sharp contrast is unwarranted, not in harmony with the reality, and not a faithful likeness of reality and truth.

In order to understand what philosophy has accomplished in the way of insight into the function of the discriminating intellect, we must never lose sight of the fact that there is only a moderate distinction of degree between purely imaginary things and so-called real things.

Neither the natural condition of our faculty of thought, nor the universality of general nature, permit of an exaggerated distinction between the reality of creations of imagination and of really tangible things. At the same time the exigencies of science demand clear illustrations and so we must distinguish between

these two kinds of reality. It is true that in common usage the mere thought and the purely imaginary things are set apart from nature and reality as something different and antagonistic. Yet the rules of language heretofore in vogue cannot prevent the spread of the additional knowledge that the universe, or general nature, is so unlimited that it can establish a conciliation between these limited antagonisms. The cat and the dog, for instance, are pronounced enemies, but nevertheless zoology recognizes them as being legitimate domestic companions.

Human consciousness is, in the first place, individual. Every human individual has its own. But the peculiarity of my consciousness, of yours, and that of others, is that of being not alone the consciousness of the individual in question, but also the general consciousness of the universe, at least that is its possibility and mission. Not every individual is conscious of the universality of general nature, otherwise there would be none of that distracting dualism. Nor would there be any necessity for volumes and volumes of philosophy to teach us that a limit, a thing, or a world outside of the universal, is a nonsensical idea, an idea which is contrary to sense and reason. We may well say, for this reason, that our consciousness, our intellect, is only in a manner of speaking our own, while it is in fact a consciousness, an intellect belonging to universal nature.

It can no more be denied that our consciousness is an attribute of the infinite universe than it can be denied that the sun, the moon and the stars are. Since this intellectual faculty belongs to the infinite and is its child, we must not wonder that this universal

faculty of thought is born with the capability of grasping the conception of a universe. And whoever does no longer wonder at this, must find it explicable, must realize that the fact of universal consciousness is thus explained.

To explain the mysterious may be regarded as the whole function of understanding, of intellect. If we succeed in divesting of its mysteries the fact that the concept of an infinite universe is found in the limited human mind, we have then explained this fact itself and substantiated our contention that the things around us are explained by their accurate reflection in our brain.

We summarize the nature of consciousness, its actions, life, and aims in these words: It is the science of infinite being; it seeks to obtain an accurate conception of this being and *to* explain its marvelousness. But we have by no means exhausted its life and aims in these words. With all the power of language, we can convey but a vague idea of the immensity of the object under discussion. Whoever desires to know more about it, must work for his own progress by observation and study. This much may be safely said: This question is no more mysterious than any other part of the general mystery.

VII

THE RELATIONSHIP OR IDENTITY OF SPIRIT AND NATURE

"There is a natural law of analogy which explains that all things belonging to the universe are members of the same family, that they are related to one another

by bonds which permit of the greatest variety in individual differences and are not nullified even by the distance between extremes." If we grasp the meaning of these words in their full bearing, we recognize the outcome of philosophy up to date. They teach us how to use our intellect in order to obtain an accurate picture of the universe.

The intellect is also called by the name of faculty of discrimination. If in the science of the powers of this faculty we place ourselves on the standpoint of present-day natural knowledge, we possess the clear and plain insight that there are no exaggerated distinctions, no unrelated extremes, in the universe. The infinite is related to the finite. For all developed and perishable things are the direct offspring of the imperishable, of the eternal universe. General nature and its special parts are inseparably interlaced. There is nothing among all that has a name which is fundamentally different from other things known by name.

There will hardly be any objection against these sentences, until we proceed to draw their last consequences. If all things are related and without exception children of the universe, it follows that mind and matter must also be two yards of cloth from the same piece. Hence the difference between human understanding and other natural human faculties must not be magnified into that of irreconcilable extremes.

In order to become accustomed to scientific distinctions, the reader should consider that a man can remain under the sway of a belief in ghosts only so long as he ignores the relationship of all existing things. He believes in real ghosts whose reality is supposed to be radically different from his own. Such

a distinction is exaggerated and illogical, and whoever believes in it does not know how to discriminate scientifically and has not the full use of his critical faculties.

Just as common parlance opposes art to nature and then forgets that art is a part of nature, similarly as night is a part of day, so the language of the believer in ghosts does not know that reason and wood, mind and matter, in spite of all their differences, are two parts of the same whole, two expressions of the same universal reality. Everything is real and true, because in the last instance the universe is all, is the only truth and reality. So I call it a slip of the tongue to speak of natural nature as opposed to natural art or artificial nature, of imaginary reality as distinct from real reality. There ought to be a different name for the day of twelve hours than for the day of twenty-four hours, so that it might be better understood that day and night are not fundamentally different, but two prongs of the same fork.

Just as the faculty of thinking is innate in the child, and grows with its development, so mankind's faculty of thought grows and has hitherto expressed itself in a language which gave only instinctive conceptions of the composition of the human brain and of its functions. The construction of languages explains in a way the condition of the human mind which had only inadequate knowledge of itself so far. Those shortcomings of speech which I called slips of the tongue were not understood until sufficient progress had been made in the explanation of the process of thinking, and now these same shortcomings offer an excellent means of representing and demonstrating the results of enlightenment.

The mind is to give to man a picture of the world, the language is the brush of the mind. It paints by its construction the universal relationship of all things referred to in the beginning of this chapter, and it does so in the following manner: It gives to each thing not only its own name, but also adds to it another indicating its family, and another indicating its race, another for the species, the genus, and finally a general name which proclaims that all things are parts of the one indivisible unit which is called world, existence, universe, cosmos.

This diagrammatic construction of language furnishes us with an illustration of the graduated relationship of things and of the way in which the human race arrives at its knowledge, its perceptions or pictures.

We said that philosophy is that endeavor which seeks to throw light on the process of human thought. This work has been rendered very difficult by the unavoidable misunderstanding of the universal relationship just mentioned. The transcendentalists insist above all that the process of thinking and its product, thought, should not be classed among ordinary physics, not as a part of physical nature, but as the creature of another nature which carries the mysterious name of metaphysics. That such a nature and such a science is neither possible nor real is proven by the construction of language which normally describes everything as being closely related and corroborates this by its abnormal shortcomings which we called slips of the tongue.

The shortcomings of language which demonstrate the positive outcome of philosophy consist in occasion-

ally giving insufficiently significant names to things belonging to a group in which the distinction between individuals, species, genera, and families is not clearly defined. It is not discernible, for instance, whether the term "cat" applies to a domestic cat or to a tiger, because that term is used for a large class of animals of which the domestic cat is the arch-type.

But it may be that this illustration is not well chosen for the purpose of demonstrating that slip of the tongue which is supposed to give us an exact appreciation of the positive outcome of philosophy. Let us find another and better illustration which will be a transition from the inadequate to the adequate and thus throw so much more light on the obscurities of language.

Another and better example of the inadequacies of language is the distinction between fish and meat. In this case, we entirely lack a general term for meat, one kind of which is furnished by aquatic animals and the other by terrestrial animals.

Now let the reader apply this shortcoming of language to the distinction between physics and metaphysics, or between thought and reality. We lack a term which will fully indicate the relation between these two. Thoughts are indeed real things. True, there is a difference whether I have one hundred dollars in imagination or in reality in my pocket. Still we must not exaggerate this difference into something transcendental. Painted money or imagined money are in a way also real, that is in imagination. In other words, language lacks a term which will clearly express the different realities within the compass of the unit.

The understanding of these peculiarities of language is calculated to promote the insight and enlightenment in regard to that secret lamp which man is carrying in his brain and with which he lights up the things of this world. The cultivation of the theory of understanding, the critique of reason, has an elementary significance for the elucidation of all things. This is not saying that philosophy, that special science with which we are here dealing, is a universal science in the sense in which antiquity conceived of it. But it is universal nevertheless in the sense in which the alphabet and other primary topics are universal. Every one must use his brains and should therefore take pains to understand its processes. Though the knowledge of these does not make other efforts unnecessary, still it explains many ideas, it elucidates the nature of thinking which every one is doing and which is frequently used in a more ruthless manner than a dog would treat a rag.

The inertia which has prevented the one-sided idealists on the one hand and the one-sided materialists on the other from coming to a peaceful understanding may be traced to one of those slips of the tongue. We lack the right terms for designating the relationship between spiritual phenomena, such as our ideas, conceptions, judgments and conclusions and many other things on one side and the tangible, ponderable, commensurable things on the other. True, the reason for this lack of terms is the absence of understanding, and for this reason the dispute is not one of mere words, although it can be allayed only by an improvement of our terminology.

Büchner, in his well-known work on "*Force and*

Matter," likewise overlooks this point, the same as all prior materialists, because they are as onesidedly insistent on their *matter* as the idealist are on their *idea*. Quarrel and strife mean confusion, only peace will bring light. The contrast between matter and mind finds its conciliation in the positive outcome of philosophy which teaches that all distinctions must be reasonable, because neither our instrument of thought nor the rest of nature justify any exaggerated distinctions. In order to elucidate the moot question, nothing is required but the insight that ideas which nature develops in the human brain are materials for the work of our understanding, though not materials for the work of our hands. Philosophy has made material efforts to grasp the understanding and its conceptions and is still making them in the same way in which chemistry is working for the understanding of substances and physics for the understanding of forces.

Substances, forces, ideas, conceptions, judgments, conclusions, knowledge and perceptions, according to the positive outcome of philosophy, must be regarded as differences or varieties of the same monistic genus. The differentiation of things no more contradicts their unity than their unity contradicts their differentiation. Darwin expanded the conception of "species" and thus contributed to a better understanding of zoology. Philosophy expands the conception of species still far beyond the Darwinian definition in teaching us to consider the species as little generalities and the largest genus, the absolute or the cosmos as the all in one, the all-embracing species.

In order to closely connect the worm and the elephant, the lowest and the highest animal, the vegetable

and the animal kingdom, the inorganic and the organic, as members of the same species or genus in a reasonable way, we must keep account of the gradations in nature, the transitions, the connecting links and connecting ideas. Embryology, which shows that the life of the highest animal develops through the stages of the animal genus, has greatly promoted the understanding of the common nature of all animals.

"The continuity in the natural gradation of things is perfect, because there are no gradations which are not represented, because there are no differences between the various grades which nature does not fill by an intermediary form. . . . There is no abrupt difference in nature, no metaphysical jump, no vacuum, no gap in the order of the world," says a well-known author of our times whose name I shall not mention, because I wish to base my argument on the acknowledged facts rather than on names of authorities.

What Darwin taught us in relation to animal life, viz., that there are no fundamental differences between species, that is taught by philosophy in regard to the universe. The understanding of the latter is rendered difficult by the habit of making a transcendental distinction between matter and mind.

VIII

UNDERSTANDING IS MATERIAL

Whether we say that philosophy has the understanding for the object of its study, or whether we

say that philosophy investigates the method of utilizing subjective understanding in order to arrive at genuine, correct, excellent, objective knowledge, that is only a matter of using different terms for the same process. It makes no difference whether we designate the object of our special science as a thing or as a process. It is much more essential to understand that the distinction between the thing and its action is in this instance of little consequence.

According to modern natural science all existence is resolved into motion. It is well known now that even rocks do not stand still, but are continuously active, growing and decaying.

The understanding, the intellect, is an active object, or an objective action, the same as sunshine, the flow of waters, growing of trees, disintegration of rocks, or any other natural phenomenon. Also the understanding, the thinking which takes place consciously or unconsciously in the human brain, is a phenomenon of as indubitable actuality as the most material of them. It cannot in the least shake our contention of the materially perceptible nature of intellectual activity that we become aware of this activity by an internal, not by an external, sense. Whether a stone is externally perceptible or thought internally, what difference does this slight distinction make in the incontestable fact that both perceptions are of equal material, natural and sense-perceptible kind? Why should not the action of the brain belong in the same category as the action of the heart? And though the movement of the heart be internal and that of the tongue of the nightingale external, what is to prevent us from considering these two movements from the higher view-

point of natural or material processes? If the function of the heart may be referred to as material, why not the function of the brain? True, the present usages of language are in conflict with this mode of thought. But it must be remembered that every science comes into conflict with usages of language by progressive development. The discovery of every new thing in plant and animal life compels the discoverer to invent a new term or change the meaning of an old one. The term material has not had a well defined, but rather an indefinite meaning so far. Now, since it is necessary, in order to understand the function of the brain to remove it from the class of transcendental or metaphysical conceptions and assign to it a place among the material things, the question arises: What will be the most appropriate term for it? The material and the spiritual are both two species of the same genus. How are we to designate the species, how the genus? For the sake of complete clearness, we require three different names, one for each species and a common general name. But since we are much less concerned about the name than about the understanding of these facts which cannot be well explained without terms, we do not insist dogmatically on calling the understanding material. It is sufficient to point out that the function of the heart and of the brain both belong to the same class, no matter whether this class be called material, real, physical, or what not. So long as language has not established a definite meaning for these terms, all of them serve equally well and are equally deceptive.

The positive outcome of philosophy which culminates in placing the theory of understanding in the

same class with all other theories, cannot be easily demonstrated on account of a natural confusion of thought which arises from an equally natural confusion of language. In the special department of handicraft as well as in that of scientific brain work the terminology is well systematized, while in the general affairs of life and science there is a confusion which is as great in the matter of conceptions as in that of applying the terms by which those awkward conceptions are expressed.

Wherever understanding is clear, there the language is also clear. The man who does not understand shoemaking does not understand its terminology. This is not saying that the understanding of a trade and the understanding of its terminology are identical, but only indicating their actual connection.

If the reader has had a glimpse of the enormity of the work of more than two thousand years of philosophy in order to state what little we know today of its achievement in the science of understanding, he will not be very much surprised at the difficulties we here meet with in finding terms for its demonstration.

The function of the brain is as material as that of the heart. The heart and its function are two things, but they are dependent one upon the other so that one cannot exist without the other. The function may partly be felt. We feel the heart beating, the brain working. The working of the heart may even be felt by touch, which is not the case with the working of the brain. But it would be a mistake to imagine that our knowledge of the function of the heart is exhausted by our perception of it through the touch. Once we have overcome the habit of making exaggerated distinctions

between things, and have learned to consider the differences of things as well as their interconnection, we can easily understand that the science of the function of the heart is an infinite science which is connected with all others. The heart cannot work without the blood, the blood cannot exist without food, and this is connected with the air, the plants, the animals, the sun, and the moon.

The function of the brain and its product, the understanding, is likewise inseparable from the universal interdependence of things. The health of the blood which is produced by the action of the heart is no more and no less a material phenomenon than the total knowledge of science which appears as a product of brain life.

Although we represent the doctrine of the material nature of understanding as the positive outcome of philosophy, this is not proclaiming the victory of that narrow materialism which has been spreading itself particularly since the eighteenth century. On the contrary, this mechanical materialism wholly misunderstands the nature of the problem. It teaches that the faculty of thought is a function of the brain, the brain is the object of study and its function, the faculty of thought, is fully explained as a brain quality or function. This materialism is enamored of mechanics, idolizes it, does not regard it as a part of the world, but as the sole substance which comprises the whole universe. Because it misunderstands the relation of thing and function, of subject and predicate, it has no inkling of the fact that this relation which it handles in such a matter-of-fact way, but not at all scientifically, may be an object worthy of study. The materialist of

the old school is too horny-handed to consider the function or quality of understanding as an object worthy of a separate scientific department. We, on the other hand, follow the suggestion of Spinoza, who required of the philosophers that they should consider everything in the light of eternity. In so doing we find that the tangible things, such as the brain, are qualities of nature, and that in the same way the so-called functions are natural things, substantial parts of the universe.

Not only tangible objects are "things," but also the rays of the sun and the scent of flowers belong to this category, and perceptions are no exception to the rule. But all these "things" are only relative things, since they are qualities of the one and absolute which is the only thing, the "thing itself," well known to every one by the name of the universe, or cosmos.

IX

THE FOUR PRINCIPLES OF LOGIC

Since this work wishes to demonstrate the positive outcome of philosophy, the reader may ask the author what are his proofs that instead of the quintessence of thousands of years of philosophical work he is not offered the elaboration of any individual philosopher, or even that of the author himself.

In reply I wish to say that my work would be rendered uselessly voluminous by quotations from the works of the most prominent philosophical writers,

without proving anything, since the words of one often contradict those of another.

What is said by Kant, Fichte, Schelling, or Hegel, in one place of any of their works, is at least considerably modified, if not contradicted, in another place of the same work. It is of little consequence, how and by whose help I have arrived at the positive outcome of philosophy as here rendered. Whether it is the actual outcome or not can be judged only by the expert, and every opinion is necessarily very subjective.

Under the circumstances I, as author, claim that my opinion is worth as much as any other, and the reader may therefore accept my assurance. As to the further value of that which I offer, it is a peculiarity of the subject under discussion that every reader carries it and its experiences within himself and may, without consulting any other author, at once draw his own conclusions about my views, provided he has acquired the necessary training in thought. What a traveler tells us about the interior of Africa must either be believed to the letter or verified by the accounts of other travelers. But what I say about logic will, I hope, find its corroboration in the logic of every reading brain.

The theory of understanding which has become the special object of philosophy, is nothing else, and cannot be anything else, but expanded logic. Many practical rules and laws of this department are known and recognized since the time of Aristotle. But the question whether there is one world or two, a natural and unnatural, or supernatural as it is called with preference, that is the point which has given much trouble to

philosophy and which will influence the health of logic so long as it is undecided.

Dr. Friedrich Dittes, director of the institute of pedagogy in Vienna, has published a *School of Pedagogy*, several editions of which have appeared, in which he gives much attention to logic. Dittes is a prominent pedagogue, well known through his writings. He confines himself in his *School* to teaching only that which is well established and accepted without a doubt. As a practical man who addresses himself mainly to teachers of primary grades, he would not place himself on the pinnacle of the outcome of philosophy, even if he could. He must confine himself to that which is well established, which is far removed from the disputes of the day. But it may here serve as a whetstone by the help of which we may give to the positive product of philosophy its latest and greatest sharpness.

He writes right in the beginning of the first part: "Our ideas are as manifold as the objects to which they refer. Several things may have many or few, or at least one quality, in common. Still they may also be totally different."

This last point, viz., that there may be things which are "totally" different from one another, is the one which is decidedly rejected by that science which has risen to the eminence of the positive acquisition of philosophy. There can be no natural things which are "totally" different from one another, because they must all of them have in common the quality of being natural.

It sounds very commonplace to say that there are no unnatural things in nature. Since the last witch

was burnt, everybody is sufficiently enlightened to know that. But the logical conclusions of natural monism have not yet been drawn. True, natural science, properly so-called, is busily engaged in arriving at them. But so much more strife is there in the "science of mind," and there is no other remedy but a well founded theory of understanding which teaches that nature is not alone absolute nature, but also the nature of the absolute. From this doctrine it necessarily follows that all things are not individually independent, but related by sex, dependent children, "predicates" of the monistic unity of the world.

"The arch fountain of the human spirit," says Dittes, "is perception. . . . Whether perception as such discloses to us the true nature of things, or whether it makes us familiar only with their phenomena, this is not to be discussed by logic." The practical pedagogue who confines himself to the education of children's brains or who wishes at most to influence such teachers as educate children's brains, is quite right in being satisfied with the old traditional Aristotlean logic. But in the school of the human race, this logic has not been sufficient. For this reason the philosophers have broached the question whether perception, "the arch fountain of the human spirit," is a true or a deceptive fountain. The product of the philosophical investigation which we here offer amounts to the declaration that the logicians are greatly mistaken about the "arch fountain." It is a cardinal error of ancient logic to regard perception as the ultimate source from which the human mind dips its knowledge. It is nature which is the ultimate source, and our perception is but the mediator of un-

derstanding. And its product, recognized truth, is not truth itself, but merely a formal picture of it. Universal nature is the arch fountain, is the eternal and imperishable truth itself, and our perception, like every other part of universal existence, is only an attribute, a particle of absolute nature. The human mind, with whose nature logic is dealing, is no more an independent thing than any other, but simply a phenomenon, a reflex or predicate of nature.

To confound true perceptions or perceived truths with general truth, with the *non plus ultra* of all truths, is equivalent to regarding a sparrow as *the* bird in general, or a period of civilization as civilization itself, which would mean the closing of the door to all further development.

Modern philosophy, beginning with Bacon of Verulam and closing with Hegel, carries on a constant struggle with the Aristotelean logic. The product of this struggle, the outcome of philosophy, does not deny the old rules of traditional logic, but adds a new and decidedly higher circle of logical perception to the former ones. For the sake of better understanding it may be well to give to this circle a special title, the special name of "theory of understanding," which is sometimes called "dialectics."

In order to demonstrate the essential contents of this philosophical product by an investigation of the fundamental laws of traditional logic and to explain it thereby, I refer once more to the teacher of elementary logic, Dittes.

Under the caption of "Principles of Judgment" he teaches: "Since judging, like all thinking, aims at the perception of truth, the rules have been sought after

by which this purpose might be accomplished. As universally applicable rules, as principles or laws of thought, the following four have been named:

- (1) The law of uniformity (identity).
- (2) The law of contradiction.
- (3) The law of the excluded third.
- (4) The law of adequate cause."

So much scholastic talk has been indulged in over these four "principles," that I can hardly bring myself to discuss them further. But since my purpose, the demonstration of the positive outcome of philosophy, consists in throwing a new light on the logic contained in these four so-called principles or laws, I am compelled to lay bare their inmost kernel.

The first principle, then, declares that A is A, or to speak mathematically, every quantity is equal to itself. In plain English: a thing is what it is: no thing is what it is not. "Characters which are excluded by any conception must not be attributed to it." The square is excluded from the conception of a circle, therefore the predicate "square" must not be given to a circle. For the same reason a straight line must not be crooked, and a lie must not be true.

Now this so-called law of thought may be well enough for household use, where nothing but known quantities are under consideration. A thing is what it is. Right is not left and one hundred is not one thousand. Whoever is named Peter or Paul remains Peter or Paul all his life. This, I say, is all right for household use.

But when we consider matters from the wider point of view of cosmic universal life, then this famous law of thought proves to be nothing but an expedient in logic which is not adequate to the nature of things, but merely a means of mutual understanding for us human beings.

Hence the left bank of the Rhine is not the right, because we have agreed that in naming the banks of a river we will turn our backs to the source and our faces to the mouth of the river and then designate the banks as right and left. Such a way of distinguishing, thinking, and judging is good and practical, so long as this narrow standpoint is accompanied by the consciousness of its narrowness. Hitherto this has not been the case. This determined logic has overlooked that the perception which is produced by its rules is not truth, not the real world, but only gives an ideal, more or less accurate, reflection of it. Peter and Paul, who according to the law of identity are the same all their lives, are in fact different fellows every minute and every day of their lives, and all things of this world are, like those two, not constant, but very variable quantities. The mathematical points, the straight lines, the round circles, are ideals. In reality every point has a certain dimension, every straight line, when seen through a magnifying glass, is full of many crooked turns, and even the roundest circle, according to the mathematicians, consists of an infinite number of straight lines.

The traditional logic, then, declares with its law of identity, or in the words of Dittes "law of uniformity," that Peter and Paul are the same fellows from beginning to end, or that the western mountains remain the same western mountains so long as they exist. The product of modern philosophy, on the other hand, declares that the identity of people, woods, and rocks is inseparably linked to their opposite, their incessant transformation. The old school logic treats things, the objects of perception, like stereotyped moulds, while the philosophically expanded logic considers such treatment adequate for household

use only. The logical household use of stereotyped conceptions extends, and should extend, to all of science. The consideration of things as remaining "the same" is indispensable, and yet it is very salubrious to know and remember that the things are not only the same permanent and stereotyped, but at the same time variable and in flow. That is a contradiction, but not a senseless one. This contradiction has confused the minds and given much trouble to the philosophers. The solution of this problem, the elucidation of this simple fact, is the positive product of philosophy.

I have just declared that logic so far did not know that the perception produced by its principles does not offer us truth itself, but only a more or less accurate picture of it. I have furthermore contended that the positive outcome of philosophy has materially added to the clearness of the portrait of the human mind. Logic claims to be "the doctrine of the forms and laws of thought." Dialectics, the product of philosophy, aims to be the same, and its first paragraph declares: Not thought produces truth, but being, of which thought is only that part which is engaged in securing a picture of truth. The fact resulting from this statement may easily confuse the reader, viz., that the philosophy which has been bequeathed to us by logical dialectics, or dialectic logic, must explain not alone thought, but also the original of which thought is a reflex.

While, therefore, traditional logic teaches in its first law that all things are equal to themselves, the new dialectics teaches not only that things are equal to themselves and identical from start to finish, but also that these same things have the contradictory quality of being the same and yet widely variable. If it is a law of thought

that we gain as accurate as possible a conception of things by the help of thought, it is at the same time a law of thought that all things, processes, and proceedings are not things but resemble the color of that silk which, although equal to itself and identical throughout, still plays from one color into another. The things of which the thinking thing or human intellect is one are so far from being one and the same from beginning to end that they are in truth and fact without beginning and end. And as phenomena of nature, as parts of infinite nature, they only seem to have a beginning and end, while they are in reality but natural transformations arising temporarily from the infinite and returning into it after a while.

Natural truth or true nature, without beginning and end, is so contradictory that it only expresses itself by shifting phenomena which are nevertheless quite true. To old line logic this contradiction appears senseless. It insists on its first, second, and third law, on its identity, its law of contradiction and excluded third, which must be either straight or crooked, cold or warm, and excludes all intermediary conceptions. And in a way it is right. For every-day use it is all right to deal in this summary fashion with thoughts and words. But it is at the same time judicious to learn from the positive outcome of philosophy that in reality and truth things do not come to pass so ideally. The logical laws think quite correctly of thoughts and their forms and applications. But they do not exhaust thinking and its thoughts. They overlook the consciousness of the inexhaustibleness of all natural creations, of which the object of logic, human understanding, is a part. This object did not fall from heaven, but is a finite part of the infinite which actually has the contradictory quality of possessing in and with

its logical nature that universal nature which is superior to all logic.

From this critique of the three first "fundamental laws of logic" it is apparent that the human understanding is not only everywhere identical, but also different in each individual and has a historical development. We are, of course, logically entitled to consider this faculty like all others by itself and give it a birthday. Wherever man begins, there understanding, the faculty of thought, begins. But we are philosophically and dialectically no less entitled, and it is even our duty, to know that the faculty of understanding, the same as its human bearer, has no beginning, in spite of the fact that we ascribe a beginning to them. When we trace the historical development of these two, of man and understanding, backward to their origin, we arrive at a transition to the animal and see their special nature merging into general nature. The same is found in tracing the development of the individual mind. Where does consciousness begin in the child? Before, at, or after birth? Consciousness arises from its opposite, unconsciousness, and returns to it. In consequence we regard the unconscious as the substance and the conscious as its predicate or attribute. And the fixed conceptions which we make for ourselves of the units or phenomena of the natural substance are recognized by us as necessary means in explaining nature, but at the same time it is necessary to learn from dialectics that all fixed conceptions are floating in a liquid element. The infinite substance of nature is a very mobile element, in which all fixed things appear and sink, thus being temporarily fixed and yet not fixed.

Now let us briefly review the fourth fundamental law of logic, according to which everything must have an ade-

quate cause. This law is likewise very well worthy of attention, yet it is very inadequate, because the question what should be our conception of the world and what is the constitution of the most highly developed thinking faculty of the world requires the answer: the world, in which everything has its adequate cause, is nevertheless, including consciousness and the faculty of thought, without beginning, end, and cause, that is, a thing justified in itself and by itself. The law of the adequate cause applies only to pictures made by the human mind. In our logical pictures of the world everything must have its adequate cause. But the original, the universal cosmos, has no cause, it is its own cause and effect. To understand that all causes rest on the causeless is an important dialectic knowledge which first throws the requisite light on the law of the necessity of an adequate cause.

Formally everything must have its cause. But really everything has not only one cause, but innumerable causes. Not alone father and mother are the cause of my existence, but also the grand parents and great grand parents, together with the air they breathed, the food they ate, the earth on which they walked, the sun which warmed the earth, etc. Not a thing, not a process, not a change is the adequate cause of another, but everything is rather caused by the universe which is absolute.

When philosophy began its career with the intention of understanding the world, it soon discovered that this purpose could be accomplished only by special study. When it chose understanding, or the faculty of thought, as the special object of its study, it separated its specific object too far from the general existence. Its logic, in opposing **thought to the rest of existence**, forgot the interconnection of the opposites, forgot that thought is a

form, a species, an individuality which belongs to the genus of existence, the same as fish to the genus of meat, night to the genus of day, art to nature, word to action, and death to life. It does not attempt to explore the essence of thought for its own sake, but for the purpose of discovering the rules of exploring and thinking correctly. It could not very well arrive at those coveted rules, so long as it idealized truth transcendently and elevated it far above the phenomena. All phenomena of nature are true parts of truth. Even error and lies are not opposed to truth in that exaggerated sense in which the old style logic represents them, which teaches that two contradictory predicates must not be simultaneously applied to the same subject, that any one subject is either true or false, and that any third alternative is out of the question. Such statements are due to an entire misconception of truth. Truth is the absolute, universal sum of all existing things, of all phenomena of the past, present, and future. Truth is the real universe from which errors and lies are not excluded. In so far as stray thoughts, giants and brownies, lies and errors are really existing, though only in the imagination of men, to that extent they are true. They belong to the sum of all phenomena, but they are not the whole truth, not the infinite sum. And even the most positive knowledge is nothing but an excellent picture of a certain part. The pictures in our minds have this in common with their originals that they are true. All errors and lies are true errors and true lies, hence are not so far removed from truth that one should belong to heaven and the other to eternal damnation. Let us remain human.

Since old line logic with its four principles was too narrowminded, its development had to produce that dia-

lectics which is the positive outcome of philosophy. This science of thought so expanded regards the universe as the truly universal or infinite, in which all contradictions slumber as in the womb of conciliation. Whether the new logic shall have the same name as the old, or assume the separate title of theory of understanding or dialectics, is simply a question of terms which must be decided by considerations of expediency.

X

THE FUNCTION OF UNDERSTANDING ON THE RELIGIOUS FIELD

We took our departure from the fact that philosophy is searching for "understanding." The first and principal acquisition of philosophy was the perception that its object is not to be found in a transcendental generality. Whoever wishes to obtain understanding, must confine himself to something special, without, however, through this limitation losing sight of all measure and aim to such an extent that he forgets the infinite generality.

A modern psychologist who occupies himself with "Thoughts on Enlightenment," which topic is evidently related to ours, says: "Real and genuine enlightenment can proceed only from religious motives." Expressed in our language, this would mean: Every genuine understanding, every true conception or knowledge, must be based on the clear consciousness that the infinite universe is the arch fundament of all things.

Understanding and true enlightenment are identical.

"It is true," say the "Thoughts on Enlightenment," "that all enlightenment takes the form of struggles on account of the nature of him who is to be enlightened and of the object about which he is to be informed. But it is a struggle for religion, not against it." The author, Professor Lazarus, says in his preface that he does not wish the reader to base his opinion on any single detached sentence. "Every single sentence," he says, "may be tested as to its value, but the whole of my views on religion and enlightenment cannot be recognized from any single one of them."

As this wish is entirely justified and as our position is somewhat supported by his psychological treatment of enlightenment, we shall comply with his wish and seek to grasp the meaning of his statements on the religious nature of enlightenment in their entirety, not as isolated sentences.

We even go a step farther than Professor Lazarus, by extending to understanding what he says about enlightenment, viz., that genuine knowledge and enlightenment must, so to say, take their departure from religious motives. But we differ a little as to what motives are religious. Lazarus refers, so far as I can see, to ideas and the ideal, while we, thanks to the positive outcome of philosophy, understand the terms *religion* and *religious* to refer to the universal interdependence of things.

Obviously the dividing line between heat and cold is drawn by the human mind. The point selected for this purpose is the freezing point of water. One might just as well have selected any other point. Evidently the dividing line between that which is religious and that which is irreligious is as indeterminate as that between hot and cold. Neither any university nor any usage of language

can decide that, nor is the pope a scientific authority in the matter.

It is mainly due to the so-called historical school that a thing is considered not alone by its present condition, but by its origin and decline. What, then, is religion and religious? The fetish cult, the animal cult, the cult of the ideal and spiritual creator, or the cult of the real human mind? Where are we to begin and where to end? If the ancient Germans regarded the great oak as sacred and religious, why should not art and science become religious among the modern Germans? In this sense, Lazarus is correct. The "enlightenment" which was headed in France by Voltaire and the encyclopedists, in Germany by Lessing and Kant, the "enlightenment" which came as a struggle for reason and against religion, was then in fact a struggle for religion, not against it. By this means one may make everything out of anything. But this has to be learned first in order to recognize how our mind ought to be adjusted, so that it may perceive that not only everything is everything, but that each thing also has its own place.

We wish to become clear in our minds how it is possible, and reconcilable with sound conception, that such an anti-religious struggle as that carried on during that period of "enlightenment" can nevertheless be a struggle for and in the interest of religion. We wish to find out how one may abolish religion and at the same time maintain it.

This is easily understood, if we remember the repeatedly quoted dialectic rule according to which our understanding must never exaggerate the distinctions between two things. We must not too widely separate the religious from the secular field. Of course, the religious field

is in heaven, while the secular is naturally in the profane universe. Having become aware that even religious imagination, together with its heaven and spirit creator, are profane conceptions in spite of their alleged transcendentalism, we find religion in the secular field, and thus this field has in a way become religious. The religious and the profane infinite have something in common, at least this that the indefinite religious name may also be applied to the secular or profane infinity.

"All culture, every condition of humanity or of a nation, has its roots as well as its bounds in history," says our Professor of psychology. Should not religion, which according to the words of a German emperor "must be preserved for the people," also have its bounds in history? Or does it belong to the infinite and must it exist forever? In order to free history of its bounds, it is necessary to avail ourselves of the positive outcome of philosophy and to demonstrate that nothing is infinite but the infinite itself, which has the double nature of being infinite and inseparable from the finite phenomena of nature. The whole of nature is eternal, but none of its individual phenomena is, although even the imperishable whole is composed of perishable parts.

The relation of the constant whole of nature to its variable parts, the relation of the general to the specialties composing it, includes, if we fully grasp it, a perfect conception of the human mind as well as of the understanding and enlightenment which it acquires. This mind cannot enlighten itself as to its special nature without observing how it came to enlighten itself as to the nature of other specialties. We then find that it has likewise enlightened itself on religious phenomena by recognizing them as a part, as a variation, of the general phenomenon of the con-

stant, eternal, natural universe. Hence secular nature, which is at the same time eternal and temporal, is the mother of religious nature. Of course, the child partakes of the nature of the mother. Religion, historically considered, arises from nature, but the determination of the date of the beginning of this specialty is left as much to the choice of man as that of the point where the cold and the warm meet. The general movement of nature, from which arise its specialties, proceeds in infinite time. Its transformations are so gradual that every determined point constitutes an arbitrary act which is at the same time arbitrary and necessary; necessary for the human being who wishes to gain a conception of it. A perfect conception of religion, therefore, goes right to the center of the question, to the point where the religious specialty reaches a characteristic stage, to its freezing point, so to say. From this standpoint, heat and cold may be sharply defined; likewise religion. If we say, for instance, that religion is the conception of a supernatural spirit who rules nature, and the reader thinks this definition somewhat appropriate, the simple demonstration of the achievements of philosophy in the field of understanding or dialectics proves that this religious conception is untenable in this world of the human mind which knows how to obtain a logical picture of its experiences.

To desire to preserve religion for the people as a sharply defined and finite thing is contrary to all logic and equivalent to swimming against the tide. On the other hand, it is equally illogical to identify religion after the manner of Lazarus with the conception of natural infinity or infinite nature, because that promotes mental haziness.

The laws of thought obtained by philosophical research give us considerable enlightenment about the infinite

material process, the nature of which is sublime enough to be worthy of religious devotion, and yet special and matter-of-fact enough to wash the dim eyes with natural clearness.

We have already seen in preceding chapters that we must first define our standpoint before we can decide which is the right or left bank of a river. So it is also in the matter of abolishing and maintaining religion for the people. It can be done the moment we extend the discussion to the realm of infinity. The conception of infinity, called substance by Spinoza, monad by Leibniz, thing itself by Kant, the absolute by Hegel, is indeed necessary in order to explain anything, not only by the fourth root, but by the infinite root of the adequate reason. To that extent we are agreed that enlightenment, or understanding as we say, is not alone a struggle against religion, but also for it. In the theory of understanding acquired by philosophy, there is contained a decisive repeal of religion. Nevertheless we say with Lazarus: "The power of enlightenment and its aim are not expressed in negation, not in that which is not believed, but in that which is believed, venerated, and preserved." And yet every enlightening perception, every understanding resulting from enlightenment, is a negation. In seeking enlightenment, for instance, on understanding, it is necessary, in order to prove that it is a natural phenomenon, to deny the religious element in so far as it assumes the existence of a divine chief spirit whose secondary copy the human spirit is supposed to be. Or, in order to gain enlightenment on the nature of the universe, in order to realize that it is a truly universal universe, we are compelled to deny the existence of every "higher" world, including the religious. But if we desire to become enlightened as to

how it is that religion may not alone be denied, but also preserved, we must transfer its origin from an illogical other world into the natural and logical universe. Thus religion becomes natural and nature religious.

If worship is confined to the idolization of the sun or the cat, every one realizes the temporality of the matter. And if we restrict worship to the adoration of the great omnipotent spirit, every one realizes the temporality of this adoration who has acquired an accurate conception of the small human spirit. If, on the other hand, we extend religious worship to everything which has ever been venerated, or will ever be venerated, by human beings, in other words, if we extend the conception of religion to the entire universe, then it assumes a very far-reaching significance.

This is the essence of enlightenment on religion: That we may at will expand or contract our conceptions, that all things are alike to the extent of representing only one nature, that all fantastical ideas, all good and evil spirits and ghosts, no matter how "supernaturally" conceived, are all natural.

The essential thing in the enlightenment acquired by philosophical study is the appreciation of the fact that understanding, enlightenment, science, etc., are not cultivated for their own sake, but must serve the purpose of human development, the material interests of which demand a correct mental picture of the natural processes.

We have chosen the religious idea for discussion in this chapter so that it may serve as a means of illustrating the nature of thought in general. We regard it as the merit of philosophy to have unveiled this nature.

Professor Lazarus is quite a pleasing companion. He is a fine thinker, saturated with the teachings of the phil-

osophers, not overfond of any particular school, and only about two hands' breadth removed from our position. But this is just enough to demonstrate by his shortcomings the advantages of our position which proves that the part of the human soul performing the work of thinking is understood by us at least two hands' breadth better than by this prominent psychologist.

"The function of enlightenment is to recognize that no phenomenon can be an effect which has not another phenomenon as its cause, and to search for the sole cause of every effect, noting all its parts and their consecutive divisions."

These words describe the mental work performed by the human brain fairly well, but still they require a little addition, to the effect that the mental work is no exception from any other phenomena, all of which have not alone their special, but also one general cause. The cause of all causes, of which religion is making an idol, must be profaned, so to speak, by the cult of science, so that the above definition of Lazarus regarding enlightenment would read as follows: The sole and true cause of all effects is the universe, or the general interdependence of all things. But this is not by far the full scope of enlightenment. It is further necessary, as Lazarus well says, to note "all its parts and their consecutive divisions." We further add: The universal cause must be understood not alone in its consecutive parts, but also in its co-ordinate parts. It is only then that understanding, enlightenment, become perfect. We then find that after all the relation between cause and effect, or the relation between the universal truth and its natural phenomena, is not a very trenchant one, but a relative one.

"Enlightenment advances in various, in all, fields of

mental life. Religious enlightenment has long been recognized as the most essential, justly so, and for many reasons, the chief of them being that religious enlightenment is the most important and hence the most bitterly contested."

Thus religious enlightenment is a part of universal, cosmic, enlightenment. It is a confusing expression to say that it is confined to "all fields of mental life." We believe to be shedding more light on the question by saying that there is enlightenment in all fields, not alone in the mental, but also in the cosmic, which unites both the material and mental. To classify this field, that is the exhaustive task of our understanding, that its exhaustive definition.

XI

THE DISTINCTION BETWEEN CAUSE AND EFFECT IS ONE OF THE MEANS OF UNDERSTANDING

The processes of the human mind and their subjective composition cannot be analyzed in a *pure* state and without regard to their objective effects any more than handiwork can be explained without the raw material to be handled and the products derived therefrom, any more than any work can be described in a *pure* state without regard to the product.

That is the sad defect of old time logic which is an obstacle to its further advance: it literally tears things out of their connections and forgets the necessity of interdependence over the need of special study.

The instrument which produces thought and knowl-

edge in the human brain is not an isolated thing, nor an isolated quality. It is connected not only with the brain and the nervous system, but also with all qualities of the soul. True, thinking is different from feeling, but it is nevertheless a feeling the same as gladness and sorrow. Thought is called incomprehensible and the heart unfathomable. It is the function of science, of thinking and thought, to fathom and comprehend what as yet is not fathomed and not comprehended.

Just as thinking and understanding are parts of the human soul, so the latter is a part of physical and intellectual man. Together with the physical development of man, of the species as well as of the individual, the soul also develops and with it that part which is the special object of the theory of understanding, viz., thought and thinking. Not alone does physical development produce intellectual development, but, vice versa, the understanding reacts on the physical world. The one is not merely a cause, nor the other merely an effect. This obsolete distinction does not suffice for the full understanding of their interrelations. We pay a tribute to the "thoughts on enlightenment" of Professor Lazarus quoted in the previous chapter by acknowledging that they throw so much light on a certain point that little more than the dot over the "i" is required in order to clear up a bad misunderstanding about the relation of cause and effect.

Since the time of Aristotle this relation has been called a category. We have already noted the statement which characterizes the age of enlightenment as one in which the causal category, or let us say the distinction between cause and effect, became the dominant issue. Other periods live with their understanding, with their thoughts, in other categories. Though the ancient Greeks knew the distinc-

tion between cause and effect, yet it was far from being the dominant point of view in their search after scientific understanding. Instead of regarding, as we do today, everything as effects which were produced by preceding causes, they saw in every process, in every phenomenon, a means which had a purpose. The category of means and purpose dominated the Greeks. Socrates admired the knowledge of nature displayed by Anaxagoras, the stories he could tell of sun, moon, and stars. But as Anaxagoras had omitted to disclose the *reasonable purpose* of the processes of nature, Socrates did not think much of such a natural science. At that period the means and the purpose were the measure of reason, the handle of the mind, the category of understanding; today causes and effects have taken their places.

Between the golden age of Greece and the era of modern science, the so-called night of the Middle Ages, the epoch of superstition, extends. If then you started out on a voyage and first met an old woman, it meant misfortune for you. Wallenstein cast the horoscope before he directed his troops. "Understanding" was gathered from the flight of a bird, the cry of an animal, the constellations of stars, the meeting with an old woman. The category of that period was the *sign* and its *consequences*.

And according to Lazarus, these things were believed by brains which were by no means dull. "I refer to a name which fills us all with veneration: Kepler believed in astrology, in the *category of the sign and its consequence*, together with the thinkers of the thousand years before him and of his own century. Astrology was a science for many centuries, promoted together with astronomy . . . and by the same people."

The peculiar thing in this statement is the reference to

the category of sign and consequence as a *science*. This category has no longer a place in modern science.

May not our modern viewpoint, the category in which our present day science thinks, the category of cause and effect, be equally transitory?

The ancients have accomplished lasting scientific results in spite of their "purposes." Mediæval superstition with its "signs," its astrology and alchemy, has likewise bequeathed to us a few valuable scientific products. And, on the other hand, even the greatest partisans of modern science do not deny that it is marred by various adventurous vagaries.

The categories of means and purposes, of signs and consequences, are still in vogue today and will be preserved together with that of causes and effects. The knowledge that this latter category is likewise but a historical one and exerts but temporarily a dominating influence on science belongs to the positive outcome of philosophy, and Professor Lazarus, with all his advanced standpoint, has remained behind this result by about a yard.

Kindly note that it is not the extinction of the relation between cause and effect which we predict, but merely that of its dominance.

Whoever skips lightly over the current of life, will be greatly shocked when reading that we place the fundamental pillar of all perception, the category of cause and effect, in the same passing boat in which the prophets and astrologers rode. One is very prone to belittle the faith of others by the name of "superstition" and honor one's own superstition by the title of "science."

Once we have grasped the fact that our intellect has no other purpose than that of tracing a human picture of

cosmic processes, and that its penetration of the interior of nature, its understanding, explaining, perceiving, knowing, etc., is nothing else, and cannot be anything else, that moment it loses its mysterious, transcendental metaphysical character. We also understand then, that the great spirit above the clouds who is supposed to create the world out of nothing, could very well serve the mind as a means of explaining things. And it is the same with the category of cause and effect, which is a splendid means of assisting explanation, but still will not suffice for the requirements of all time to come.

The perception that the great spirit above the clouds is a free invention of the small human mind has become so widely spread that we may well pass on over it to other things.

Among the questions now on the order of business is the one whether the "causes" with which modern science operates so widely are not in a way creators in miniature which produce their effects in a sleight-of-hand way. And this erroneous notion is, indeed, the current conception.

If a stone falls into the water, it is the cause of the undulations, but not their creator. It is only a co-operator, for the liquid and elastic qualities of the water also act as a cause. If the stone falls into butter, it creates at best but one undulation, and if this stony creator falls on the hard ground, it is all up with the creation of undulations. This shows that causes are not creators, but rather effects which are not effected, but effect themselves.

The category of cause and effect is a good help in explanation, so long as it is accompanied by the philosophical consciousness that the whole of nature is an infinite sea of transformations, which are not created by one great or many small creators, but which create themselves.

A well-known philosophical author expresses himself in the following manner: "During the first weeks of its existence, the child has no perception either of the world without, or of its own body, or of its soul. Hence its feeling is not accompanied by the consciousness of an interaction between these three factors. It does not suspect its causes." We see that soul, body, and outer world are called the three factors of feeling. Now note how each one of these three causes or factors is, so to say, the store house of innumerable factors or causes, all of which cause the feeling of the child. The soul consists of many soul parts, the body of many bodily parts, and the outer world consists of so many parts that it would consist of ten times more parts, if there were any more than innumerable.

There is no doubt that the child's feeling, or any other, does not exist independently, but is dependent on the soul, the body, and the outer world. This constitutes the indubitable interrelation of all things. In the winding processes of the self-agitated universe, the category of cause and effect serves as a means of enlightenment, by giving our mind its help in the systematization of processes. If the drop of a stone precedes, the undulations of the water follow; if soul, body, and outer world are present, feeling follows.

The positive outcome of philosophy does not reject the services of the category of cause and effect. It only rejects the mystical element in that category in which many people, even among those with a "scientific education," still believe. There is no witchcraft in this matter, but simply a mechanical systematization and classification of natural phenomena in the order of their appearance. So long as water remains water and retains its liquid and elastic properties, and so long as a stone is a stone, a pon-

derous fellow striking the water heavily, just so long will the splash of the stone be surely and inevitably followed by undulations of the water. So long as soul, body, and outer world retain their known properties, they will with unfailing precision produce feeling. It is no more surprising that we can affirm this on the strength of our experience than that we have a category of cause and effect. There exists nothing extraordinary but the condition of things, and in this respect all things are alike, so that human understanding, cause and effect, or any other category, are no more extraordinary than any other condition. The only wonder is the universe, but this, being a universal wonder, is at the same time trivial, for nothing is so familiar as that which is common to all.

By the help of the viewpoint of cause and effect, man throws light on the phenomena of nature. Cause and effect serve to enlighten us about the world.

The way, the method, by which this enlightenment is produced, is the special object of our study. We do not deny that cause and effect serve us as a means, but only as one of many. We honor the category of cause and effect far too much when we regard it as *the* panacea. We have seen that formerly other viewpoints served the same purpose and still others exist today, some of which have a prospect of being valued more highly in the future than cause and effect. This category serves very well for the explanation of processes which follow one another. But there are other phenomena which occur side by side, and these must also be elucidated. For such a purpose, the category of genus and species is quite as serviceable. Haeckel speaks somewhat slightly of "museum zoologists and herbarium botanists," because they merely classify animals and plants according to genera and species. The

modern zoologists and botanists do not simply consider the multiplicity of animals and plants which exist simultaneously, but also the chronological order of the changes and transformations, and in this way they have gained much more of a life-picture of the zoological and botanical world, a picture not alone of its being, but also of its growing, of arising and declining. Undoubtedly the knowledge of the museum zoologists and herbarium botanists was meager, narrow, mechanical, and modern science offers a far better portrait of truth and life. Still this is no reason for overestimating the value of analysis by cause and effect. This method supplements the category of genus and species. It assists in enlightening, it helps in the process of thought, but it does not render other forms of thought superfluous.

It is essential for the theory of understanding, to recognize the special forms of thought of old and new times as peculiarities which have a common nature. This common nature of the process of thought, understanding, enlightenment, is a part of the universal world process, and not greatly different from it.

The conception of a cause partly explains the phenomena of the universe; but so does the conception of a purpose and of a species, in fact, so do all conceptions.

In the universe all parts are causes, all of them caused, produced, created, and yet there is no creator, no producer, no cause. The general produces the special, and the latter in turn produces by reaction the general.

The category of the general and the special, of the universe and its parts, contains all other categories in the germ. In order to explain the process of thought, we must explain it as a part of the universal process. It has not caused the creation of the world, neither in a theologi-

cal nor in an idealist sense, nor is it a mere effect of the brain substance, as the materialists of the eighteenth century represented it. The process of thought and its understanding is a peculiarity of the universal cosmos. The relation of the general to the special is the clear and typical category underlying all other categories.

One might also apply other names to this category, for instance, the one and the many; the essence and the form; the substance and its attributes; truth and its phenomena, etc. However, a name is but a breath and a sound; understanding and comprehension are what we want in the first place.

XIII

MIND AND MATTER: WHICH IS PRIMARY, WHICH SECONDARY?

It is the merit of the philosophical outcome to have delivered the process of understanding from its mystic elements. So long as cause and effect are not recognized as a form of thought belonging to the same species with many other forms of thought, all of which serve the common purpose of illuminating the cosmic processes for the human mind by a symbolized picture composed of various conceptions, just so long will something mysterious adhere to the category of cause and effect.

Philosophy is particularly engaged in illuminating the understanding. It has learned enough of its specialty to know that it is a part of the universe performing the special function of arranging the world of phenomena and its smaller circles according to relations of consanguinity

and chronology. Such an arrangement presents a scientific picture of the world. The well-known diagram of conceptions used by logicians, consisting of a large circle symbolizing the general, inside of which smaller circles crossing and encircling one another represent the specialties, is a fitting aid in explaining the method by which the faculty of understanding arrives at its scientific results. Science in general is the sum of all special kinds of knowledge, differing from them in no greater degree than the human body from the various organs of which it is composed. A bodily organ can no more exist outside of the body than any particular knowledge can exist outside of the generality of all sciences. No metaphysics is possible under this condition.

As surely as we know that two mountains cannot be without a valley between them, just so surely do we know that nothing in heaven, on earth, or in any other place can lie outside of the general circle of things. Outside of the worldly world there can be no other little world. A logically constituted human mind cannot think differently. And it is likewise impossible to discover such an outside world by the help of and within the limits of experience, because thought is inseparable from experience and there can be no experience without thought. A man who has a head upon his shoulders—and there can be no man without a head—cannot experience any unworldly metaphysical world. The faculty of experience, which includes the faculty of understanding or perception, is merely empirical. Our settled conviction of the unity of the universe is an inborn logic. The unity of the world is the supreme and most universal category. A closer look at it at once reveals the fact that it carries its opposite, the infinite mul-

tiplicity, under its heart or in its womb. The general is pregnant with specialties.

This is a comparison, and comparisons limp. A mother has other qualities beside that of motherhood, while the universe, or the absolute generality, is nothing but the bearer, the cause, of all special and separate things. It is "pure" motherhood which can no more be without children than the children without a mother. In this way, no cause can be without effects. A cause without an effect—let us dismiss it. The child is as much a cause in motherhood as it is its effect and product. In the same way the universe has never been, and could not be conceived, without the many special children which it carries in its womb.

If thought wishes to make for itself a picture, a conception of the cause of all causes, it must necessarily take cognizance of the effects. Thought may very well separate one from the other, but cannot think correctly without the consciousness that its separating and distinguishing is only a formality. Imagining, conceiving, knowing, perceiving, are so many formalities.*

But philosophy took its departure from the opposite, the wrong, view. It regarded perceiving, understanding, as the main thing. It did not use science as a formality, as something secondary, as something serving a nature, a cause, a purpose, a higher reason, but it started with the illogical and irrelevant assumption that the specialty of mind, understanding, conceiving, judging, distinguishing, is the primary, supreme, self-constituted cause and purpose, instead of being an element in logic. Even in

[* By means of which we picture and explain the monistic inter-relation of all things, called universe, nature and cosmos.—EDITOR.]

Hegel's logic, which, by the way, has given us much light on the process of thought, this confounding of the original with the copy is the cause of an almost impenetrable mysticism.

Not nature, but science is to those idealist philosophers the source of truth. The "true idea" surpassed everything with them. This "idea" is forced by Hegel to roll about, and wind, and twist as if it were not a natural child, but a metaphysical dragon. But we cannot deny that in these twistings and windings of the Hegelian dragon the condition of the mind is exposed in all its peculiarities and nakedness.

According to Hegel's theosophical opinion I do not become aware of my friend in material intercourse and bodily touch. Hegel's mark of a true friend is not that he proves true in life, but that he corresponds "to his idea." The "idea" of true friendship is for the idealist the measure of friendly truth, just as Plato measures the ideal or true condition of states and cooking pots of this valley of sorrows by the standard of an "idea" of the state, or an "idea" of the cooking pot, supposed to be derived from some other world.

It is surely a valuable gift of nature that the human mind can form its ideals. But it is a gift that has also caused much trouble and which requires for its higher development the clear understanding that ideals are constructed out of real materials. Without this understanding the human race will never succeed in making a reasonable use of its ideal faculty. The beautiful ideal of true friendship may stimulate us to emulation. But the knowledge that it is nothing but an ideal which in reality is always mixed with a little falseness serves as no mean antidote against sentimental transcendentalism. And the

same holds true of truth, liberty, justice, equality, brotherhood, etc.

The striving after an ideal is very good, but it does no harm to be conscious of the fact and clearly see that any ideal can never be realized without some admixture of its opposite. What is it that Lessing says? "If God were to offer me the search for truth in his left hand, and truth in his right, I should grasp his left hand and say: Father, keep truth, it is for you alone."

It has not been the task of philosophy to give us a true mind picture of the world. This it cannot do, this cannot be done by any scientific specialty. It may be done by the totality of sciences, and even by them only approximately. Even with them striving is a higher truth and of higher value than knowing. I repeat, then: It is not the particular task of philosophy to furnish a true picture of the world, but rather to investigate the method by which the human mind arrives at its world pictures. That is its work, and it is the object of this book to sketch its outline.

A sketch is in itself an inexact piece of work. I may be blamed for jumbling together such terms as world, cosmos, universe, nature, or such others as ideas, judgment, conclusion, thought, mind, intellect, etc., and for using them as synonyms when many of them have already been assigned their fixed meaning in the classification of science. But this is the point which I emphasize, that the method of science, of thought, has the twofold nature of making fixed terms and still remaining pliable.

Science not only defines what this or that is, but also how it moves, how it originates, passes away, and still remains; how it is fixed and yet at the same time moving. The real being of which science treats, viz., the universe, is not alone present, but also past and future, and it is

not alone this or that, but it is everything. Even nothing is something belonging to the aggregate life.

This dialectic statement is rather incomprehensible to the unphilosophical brain. Nothing and something are conceptions so widely diverging from one another in the unphilosophical mind that they seem far more apart than heavenly bliss is supposed to be separated from earthly misery, according to the declarations of clergymen. Clergymen are transcendental logicians, and it is likewise transcendental to regard nothing as an absolute nothing. It cannot be denied that it is at least a conception or a term. Therefore, whether little or much, it is something. We cannot get out of existence, out of the universe, any more than Münchhausen can pull himself out of a swamp by his pigtail.

There can be no absolute nothing, because the absolute is synonymous with the universe, and everything else is relative. So it is also with nothing. It simply has the significance of not being the main thing. To say: This is nothing means it is not that which is essential at this time and place. This man is nothing simply means that he is not a man out of the ordinary, and it does not at all signify that he is nothing at all.

The category of being and not being, like all categories,* which appear as something fixed to the sound but ill-informed mind, is really something shifting. Its poles fuse and flow into one another, its differences are not perfectly radical. These categories give us an illustration of the mobile universe, which is a unit composed of its opposite, multiplicity.

*That is, like all categories that are subdivisions of the absolute being, of general existence, pertaining only to the phenomena or specialties, which, however, in their entirety constitute the absolute the absolute being or monistic nature.—Editor.

The positive outcome of philosophy has for its climax the understanding that the world is multifarious, and that this multiplicity is uniform in possessing the universal nature in common. The sciences must represent these objects in such a contradictory way, because all things live in reality in this contradiction. What the museum zoologists and the herbarium botanists have accomplished on the field of zoology and botany in the category of space, has been accepted by the Darwinians with the addition of the variety of those subjects in the category of time. Either class of scientists categorizes, classifies, systematizes. The chemists do the same with substances and forces, and so does Hegel with his categories of being and not being, quantity and quality, substance and attribute, thing and quality, cause and effect, etc. He makes all things flow into one another, rise, pass, move, and he is right in doing so. Everything moves and belongs together.

But that which Hegel missed and which is added by us consists in the further perception that the flow and the variability of the categories just quoted is only an illustration of the necessary variability and interaction of all thoughts and conceptions, which are, and must be, nothing but illustrations and reflexes of the universal life.

However, the idealist philosophers who have all of them contributed materially toward this ultimate special knowledge, are still more or less under the mistaken impression that the process of thinking is the true process and the true original, and that the true original, nature or the material universe, is only a secondary phenomenon. We now insist on having it understood that the cosmic interaction of phenomena, the universal living world, is the truth and life.

Is the world a concept? Is it an idea? It may be conceived and grasped by the mind, but it does and is more than that. It surpasses our understanding in the past, the present, and the future. It is infinite in quantity and quality. How do we know that? We say in the same breath that we do not know everything which is passing, has passed, and will pass in the world; we do not understand the whole, and yet we claim to have fully understood that this whole universe is not a mere idea, but something absolute, something more than a conception or an intuitive knowledge, something real and true, something infinite. How do we solve this contradiction

The science of the limitation of the individual and of the collective human intellect is identical with the universal concept; in other words, it is innate in the human intellect to know that it is a limited part of the absolute universe. This intellectual faculty of ours is no less natural and aboriginal than the faculty of trees to become green in summer and that of the spiders to spread their nets. Although the intellect is a limited part of the unlimited and aware of this fact, yet its faculty of knowing, understanding, judging, is a universal one. No intellect is possible or conceivable which can do more than the instrument of thought given by nature to the human race. We may indeed conceive of a mental giant. But when we take a closer look, every one will perceive that this mental giant cannot get outside of the traditional race of thinkers, unless he is supposed to be the creature of imagination.

Thinking, knowing, understanding, are universal. I can perceive all things in about the same way that I can see all cobble stones. I can see them all, but I cannot see everything that they are composed of, I cannot see, for instance, that they are heavy and ponderable. In the same

way all things may be perceived, but not everything that belongs to them. They do not dissolve in understanding, in other words, understanding is only a part of the universe, all of which may be perceived, but the understanding of which is not the whole, since our intellect is but a part of the universe.

Everything may be understood, but understanding is not everything. Every pug-dog is a dog, but every dog is not a pug-dog. The conflict of idealism and materialism rests on this same conflict between genus and subordinate species. The idealist incarnate contends that all things are ideas, while we strive to make him see that ideal things and material things are two species of the same genus, and that they should be given a common family or general name beside their special name, on account of their common nature and for the purpose of a sound logic. Wherever this understanding has been acquired, the quarrel between idealists and materialists appears in the light of a mere bandying of words.

Everything is large, everything is small, everything extended through space and time, everything cause and everything effect, everything a whole and a part, because everything is the essence of everything, because everything is contained in the all, everything related, everything connected, everything interdependent. The conception of all as the absolute, the content of which consists of innumerable relativities, the concept of the all as the universal truth which reflects many phenomena, that is the basis of the science of understanding.

XIII

THE EXTENT TO WHICH THE DOUBTS OF THE POSSIBILITY
OF CLEAR AND ACCURATE UNDERSTANDING HAVE BEEN
OVERCOME

A contemporaneous professor of philosophy, Kuno Fischer, of Jena, says: "The problem of modern philosophy is the understanding of things." But this problem does not occupy modern philosophy alone; it was also considered by ancient philosophy. Even more, it belongs to the whole world. All the world, I mean the whole human world, and especially the sciences, search after understanding. I do not say this for the purpose of setting the Professor right, for I acknowledge that he is a fairly deserving philosopher. If I cared to go through his works, I should surely find other passages which state the problem of philosophy more accurately and concretely, to the effect that philosophy does not strive merely for the indefinite "understanding of things," but rather for the special understanding of that particular thing which bears the name of "understanding." Philosophy at the climax of its development seeks to understand "understanding." It has seriously attempted the solution of this problem so long as men think, so far as our historical records go.

After that which we have already said about the beginning and the end of things and about their immortality, it will be easily understood that the thing called understanding has no more historical beginning than all the rest. The known grows out of the unknown, the conscious out of the unconscious. Our modern consciousness, though agreeably cultivated, is still an undeveloped, unconscious consciousness. Nevertheless, development has gone far enough to make it plain that understanding

is anti-religious. Especially the understanding of understanding, the outcome of positive philosophy, has a pronounced anti-religious, and to that extent "destructive," tendency. But one should not have an exaggerated idea of this destruction. Here, under this sun, nothing is destroyed without leaving the basis for the growth of new life from the ruins. It belongs to the conception of the universe to understand that it is the main conception required for the conception of conception, for the understanding of understanding.

The history of philosophy begins with the decay of heathen religion, and the history of modern philosophy with the decay of Christian religion. Since religion must be preserved for the people according to the official declarations of the rulers, the official professors are not clear and accurate expounders of the positive outcome of philosophy. No matter how great the work of Spinoza, Leibniz, Kant, and Hegel may be, yet the followers of Kant and Hegel have no freedom of research, and Kuno Fischer, although very close to the root of the subject, is nevertheless doomed to remain in the mystification of the function of conceiving and of understanding. His profession clouds his judgment.

"Nature," says this professor, "is regarded as the first object of understanding, as the principle from which everything else follows. In this respect modern philosophy is naturalistic. It is taken for granted that nature can be understood, or that the possibility of understanding things is given. Modern philosophy makes this assumption dogmatically. . . . The Kantian philosophy, on the other hand, assumes a critical, not a dogmatic, attitude toward the possibility of understanding." (System of Logic and Metaphysics, by Kuno Fischer, sec-

ond edition, pages 104 and 109.) In this latter, critical, stage, the subject is kept rather hot by the professors of philosophy. The critics are still engaged in exclaiming: Be amazed, oh world! How is understanding possible?

In the first place, there is nothing to be amazed at. Why is not the "naturalistic" philosopher consistent by recognizing his special object, understanding, as a natural object?

The "supposition" that an understanding of things is possible, is neither a supposition nor anything "dogmatic."

The philosophers should abandon their old hobby of trying to prove anything by syllogisms. Nowadays, a case is not substantiated by words, but by facts, by deeds. The sciences are sufficiently equipped, and thus the "possibility of understanding" is demonstrated beyond a doubt.

"But," say the critics who are so wise that they hear the grass growing, "are those perceptions which are produced by the exact sciences really perceptions? Are they not simply substitutes? Those sciences recognize only the phenomena of things; but where is the understanding which perceives the truth?"

We shall offer it to them. You are naturalists. Well, then, nature is the truth. Or are you spiritualists who make a metaphysical distinction between the truth and the phenomenon? To understand means to distinguish and judge. The semblance must be distinguished from the truth, but not in an excessive manner. It must be remembered that even the most evil semblance is a natural phenomenon, and the sublimest truth is only revealed by phenomena, just because it is natural.

But the old logic cannot stand any contradictions. Semblance and truth are contradictions for it and they cannot be reconciled by it. But the irreconcilable simply

consists in entertaining, in this monistic world, thoughts which are supposed to be totally different. Hence old style logic lacks entirely the mediating manner of thought which does not elevate understanding and its faculty of thought to the skies, but is satisfied to regard it as a very valuable, but still natural, quality.

The old logic could not construct any valid rules of thought, because it thought too transcendently of thinking itself. It was not satisfied that thought is only a faculty, a mode of doing, a part of true nature, but the nature of truth was spiritualized by it into a transcendental being. Instead of grasping the conception of spirit with blood and flesh, it tries to dissolve blood and flesh into ideas. That would be well enough, if such a solution of the riddles were meant to have no other significance than that of symbols.

The old logic contains long chapters about the proofs of truth. It is supposed to be "identical" with the idea and to be proven by ideas. This would be all right, if we remained conscious of the secondary relation in which the idea and understanding stand to truth. But old line logic is not conscious of this relation. On the contrary. Its consciousness distorts that relation. It elevates the mind to the first place and relegates blood and flesh to the last.

"The necessity of a conception is proven by the impossibility of its opposite. An idea is contradicted by proving its impossibility. This impossibility is demonstrated when it can be proven that a thing is at the same time A and not-A, or when it can be shown that a thing is neither A nor not-A. The first mode of proof is called *antinomy*, the second, *dilemma*."

In this representation of the logical proof much is said of the "thing," for instance this: A thing cannot be at

the same time straight and crooked, true and untrue, light and dark. The excellence of this doctrine is easily apparent, because it is overlooked that the concept "thing" is not a fixed, but a variable one. If a straight line is a thing, and a crooked line another thing, and if these two things are held to be opposed to one another, then the above logic is the most justified in the world. But who claims that there are not many straight lines which are crooked at one end, which run straight on for a certain distance and then turn? Who will define to us what a line is? A line may be composed of 10, 20, 30, etc., parts, and each part is a line.

Before anything to the point can be said about the logical laws, it is necessary to say above all how it stands with the relation of the whole to its parts, of the universe to its subdivisions. The old theological question of God and his creatures, the old metaphysical question of the unity and the multiplicity, of truth and its phenomena, reason and consequence, etc., in one word, the question of metaphysical categories must be solved and settled before the definition of the minor factors of understanding, the questions of formal logic, can be attempted.

What is a "thing?" A clergyman would answer: Only God is something, everything else is nothing! And we say: Only the universe is something, and everything in it consists of vacillating, changing, precarious, varicolored, fluid, variable phenomena or relativities.

In our times, up to which the theologians have speculated so much and contributed so little to understanding, one can hardly touch on the God concept without annoying the reader. Yet it is very essential for a thorough understanding of the human mind to point out that the God concept and the universe concept are analogous con-

cepts. Not in vain have the first minds of modern philosophy, such as Cartesius, Spinoza, Leibniz, occupied themselves so closely with the God concept. They invented the so-called ontological proof of the existence of God. This proof if applied to the universe, testifies to its divinity. A metaphysical cloud pusher as well as the physical cosmos are fundamentally concepts of the most perfect being. It makes little difference whether we say that the concept of the universe, or of the cosmos, or of the most perfect being is innate in man. If this concept were not existing, it would lack the main thing required for its perfection. Hence the most perfect being must exist. And it does. It is the universe, and everything belongs to its existence. Nothing is excluded from it, least of all understanding. The latter is, therefore, not only possible, but a fact, which is proven by the very concept of the most perfect being.

This ought to be sufficient to help us over the doubts of the critics, especially over Kantian criticism, or rather dualism. Kant did not care to accept the dogma of the possibility of understanding without examination; he wished to investigate first. He then discovered that we may understand correctly, provided we remain with our understanding on the field of common experience; in other words, in the physical universe, and refrain from digressing into the metaphysical heaven. But he did not understand that the metaphysical heaven against which he warns us would be an obsolete standpoint in our days.

He still permits that transcendental possibility to remain and while he warns us not to stray into it with our understanding he omits to tell us to also keep away from it with our intuition. Kant struggles about between the "thing as phenomenon" and the "thing itself." The former is material and may be understood, the latter is

supernatural and may be believed or divined. With this doctrine, he again made understanding, the object of modern philosophy, problematical, thus inviting us to investigate further.

This we have done, and it is now the positive outcome of philosophy to know clearly and definitely and understand that understanding is not only a part of this world of phenomena, but a true part of the general truth, beside which there is no other truth, and which is the most perfect being.

Philosophy took its departure from confused wrangling about that which is and that which is not, especially from the religious disappointments met by the Greek nation when its world of deities dissolved into phantasms. Humanity demands a positive, strong, unequivocal, reliable understanding. Now, in this world of ours, the solid is so mixed with the fluid, the imperishable with the perishable, that a total separation is impossible. Nevertheless our intellect catches itself continually making separations and distinctions. Should not that appear mysterious to it? The necessary and natural result was the problem of the theory of understanding, the special question of philosophy: Which is the way to an indubitably clear and positive understanding?

The summit of Grecian philosophy bears the name of Aristotle. He was a practical man who did not like to stray into the distance when he could find good things near by, and he did not concern himself about the descent of understanding. Its platonic origin from an ideal world went instinctively against his grain. He, therefore, took hold of the question at the nearest end and analyzed the positive knowledge available at that time. But since Grecian science and the knowledge of Aristotlean times

were rather slim, his attempt to demonstrate logic did not produce any decisive results. But it had been discovered that it was possible to make positive deductions from fixed premises.

Aristotle clung to this. He showed clearly and definitely, excellently and substantially, how logical deductions should be made in order to arrive at positive understanding. All dogs are watchful. My pug-dog is a dog, therefore it is watchful. What can be more evident? Why, then, speculate about God, freedom, and immortality, when indubitable knowledge may be obtained by the formal method of exact deductions?

But Aristotle had overlooked something, or, being a practical man, perhaps overlooked it intentionally. The premise from which he deduced the watchfulness of dogs in general, was handed down by tradition and had been accepted on faith. But was it founded on fact? Could there not be some dogs who lacked the quality of watchfulness, and might not our pug-dog be very unreliable, in spite of all exact deductions? In the case of the pug-dog this would not be of very great moment. But what about the question of the beginning and end of the world, or the question of the existence of God? The Grecian gods had been outgrown by Aristotle.

The history of logic, and of philosophy in general, is interrupted by Christianity and by the decline of the antique world, until the reformation opens a new era. The Catholic church had, in its own way, thoroughly settled the great questions of the true nature of things, of beginning and end, reason and consequence. But when it, and with it Christianity, began to disintegrate, disbelief once more posed in the brains of the philosophers the old question: How do we obtain reliable and true understand-

ing? Reliability and truth were at that time still identical.

Bacon and Descartes are the men who started the investigation. Both of them were disgusted with Aristotle and with his formal logic, particularly with the subtleties of scholasticism. It did not satisfy this new epoch to found positive understanding on traditional contentions and exact deductions therefrom. It is a radical epoch and, therefore, epoch-making. The new philosophers have the aim of unequivocal understanding in common with the ancient philosophers. Bacon still connects himself with the stock in trade of the past. His historian says of him that one should not reiterate that Bacon took his departure from experience, for this means nothing or nothing more than that Columbus was a mariner while the main thing is that he discovered America. . . . He wanted to find a new logic corresponding to the new life. . . . The inventive human mind has created the new time, the compass, the powder, the art of typography. . . . He wanted a new logic which corresponded to the spirit of invention. He, the philosopher of invention, was Lord Chancellor of England, was a man of the world. Not only himself, but also his science, was too ambitious, too full of energy, too world-embracing, for him to bury himself in solitude. That is a glory for a philosopher, but at the same time an obstacle for his special task, for the new logic. He recognized the import of his task only in its general outlines. But his contemporary and successor Descartes approached the matter more radically and pointedly.

Although in recent times the human mind had demonstrated its positive faculty of understanding in natural sciences, especially by inventions, still it was prejudiced by religious improbabilities in its great premises dealing

with the essence of things and men, with the "good, true, and beautiful," as the ancients called it. In order to end his doubts, Descartes elevates radical doubt to the position of a principle and of a starting point for all understanding. Then he cannot doubt that he is at least searching for truth. He who does not believe in any understanding, any science, any inventions, cannot doubt at all events that the impulse for understanding is there. It, at least, is undeniable. *Cogito, ergo sum*—I think, therefore I am—that is a premise which cannot be shaken. The rest, thinks Descartes, may be deduced by Aristotlean methods.

With this thought, the philosopher of modern times relapsed into the old error that anything positively true could be ascertained with logical formulas. His consciousness of the thoughts stirring in his brain, I might say his flesh and blood, convinced him by matter-of-fact evidence of the reality of their existence.

This fact had hitherto been misunderstood. It is claimed that Descartes could convince himself only of the existence of his soul, of his thought, by evidence. No, my feeling, my sight, my hearing, etc., are just as evident to me as my thinking, and simultaneously with sight and hearing that which is heard and seen. The separation of subject and object can and must be merely a formality.

The Cartesian thesis has been distorted into the statement that nothing is evident to man but his own subjective conception. And the ideology has been carried to the extreme of calling the whole world an idea, a phantasmagoria. True, Descartes needed God in order to be sure that his conceptions did not cheat him.

In order to prove that we no longer need such extravagant means in our times, I shall devote another chapter to this subject.

XIV

CONTINUATION OF THE DISCUSSION ON THE DIFFERENCE
BETWEEN DOUBTFUL AND EVIDENT UNDERSTANDING

Let us divide the history of civilization into two periods. In the first, the less civilized period, the doubtful perceptions predominate, in the second period the evident ones. Our special investigation of the correct way of evident understanding began in the first period in which the doubtful perceptions, commonly called errors, predominated. In this period, the gods rule in heaven and imagination on earth.

To get rid of errors meant originally to lose gods and heaven. The ideal world was the cause of metaphysics. Metaphysics which drew the investigation of the supernatural into the circle of its activity, did so for the purpose of enlightening the human mind. Thus its problem was from the outset of a twofold nature. It desires to throw light on the natural process of thought, which was temporarily unbalanced by a bent for the supernatural, and for this reason it first loses itself in the clouds.

While human reason has now become soberer, the meaning of the term "metaphysics" has also been sobered down. Our contemporaneous metaphysicians speak no longer of such transcendental things as the ancients did. Present day metaphysics occupies itself with such abstract ideas as the thing and nothing, being and coming into being, matter and force, truth and error.

Particularly the investigation of doubtful, erroneous, and evident or true understanding, which we here discuss, is a part of metaphysics.

The term metaphysics, then, has a double meaning,

one of them transcendental and extravagant, the other natural and within sober limits. Our sober task of demonstrating the positive outcome of philosophy that acquired sober methods in dealing with understanding also compels us to face transcendental metaphysics, which sobers down in the course of time and develops into its opposite, into pure, bare, naked physics.

The divine has become human, the transcendental sober, and so understanding grows ever more unequivocal and evident in the progress of history.

In order to become clear on the problem of understanding, we must cease to turn our eyes to any one individual opinion, thought, knowledge, or perception. We must rather consider the process of understanding in its entirety. We then notice the development from doubt to evidence, from errors to true understanding. At the same time we become aware how unwise it was to entertain such an exaggerated idea of the contrast between truth and error.

Whoever searches for true and evident understanding will not find it in Jerusalem, nor in Jericho, nor in the spirit; not in any single thing, but in the universe. There the known emerges from the unknown so gradually that no beginning can be traced. Understanding comes into being and grows, is partly erroneous and partly accurate, becomes more and more evident. But there is never an absolutely true understanding any more than there can be an absolutely faulty one. Only the universe, but not any single thing, is absolute, imperishable, and impregnable.

In order to accurately define understanding, we must separate it from misunderstanding, but not too far, not excessively, otherwise the thing becomes extravagant. The limited formal logic teaches, indeed, that the same

thing cannot be affirmed and denied at the same time, affirmation and denial being contradictions. But such a logic is very narrow. Herbs are not weeds. Weeds are the negation of herbs, and still weeds are herbs. An erroneous understanding is a negation of a true understanding, error is not truth, and still it exists in truth. There is no absolute error any more than perceptions are the truth itself. All perceptions are and remain nothing but symbols or reflections of truth.

We do not wish to confound error with truth and make a stew of them, but rather understand them both. The mixing is done by the man who opposes them as irreconcilable contradictions. Let us first note the mistake committed in so doing. By so opposing error and truth something is done which is not intended, not known. The intention is to confront the erroneous understanding with truth. For this purpose, error is assumed to be the same as erroneous understanding, which may be admitted; but true understanding and truth are two different things and must be kept separate, if we wish to arrive at clear and unmistakable results. If we formulate the question in this way: How do erroneous and true understanding differ, we are nearer to the desired clarity by two solar distances. We then find that error and understanding do not exclude one another, but are two species of the same genus, two individuals of the same family.

Two times two is not alone four; this is only a part of the truth; it is also four times one, or eight times one-half, or one plus three, or sixteen times one-quarter, etc. The man who first observed that the sun circled around the earth once a day, committed a mistake, yet he made a true perception. The apparent circulation of the sun in twenty-four hours around the earth is a substantial part

of the understanding which illumines the relation of the motion of the sun and of the earth. No truth is merely simple, but it is at the same time composed of an infinite number of partial truths. The semblance must not be contradictorily separated from truth, in an extravagant sense, but is part of truth, just as all errors contribute toward true understanding. In so far as all perceptions are limited, they are errors, partial truths. True understanding requires above all the backing of the conscious recognition that it is a limited part of the unlimited universe.

The cosmic relation of the whole to its parts, of the general to the special, must be considered in order to get a clear conception of the nature of the human understanding.

Understanding or knowledge, thinking, perceiving, reasoning, must, for the purpose of investigation, not be excessively separated from other phenomena. In a way, every object which is chosen for special study is isolated. In saying, "in a way," I mean that the separation of the objects of study from other world objects must be consciously moderate, not exaggerated. The separation of the intellect from other objects or subjects when investigating them, must be accompanied by the recognition that such a separation is not excessive, but only formal. In separating a board, for the purpose of studying its condition, from other boards or things and finding that it is black, I must still remember that this board is black only on account of its interdependence with the whole world process; that the blackness which it possesses is not of its own making, but that light, and eyes, and the whole cosmic connection belong to it. In this way every special perception becomes a proportionate part in the chain of

universal perceptions, and this again a proportionate part of the universal life.

That this evident universal life is not a mere semblance, not a ghost, not a baseless imagination, but the truth, is made evident to the thinking man by his consciousness, reason, common sense. True, he has been deceived by them, sometimes. But it requires no logic, no syllogistic proof, to know that they are telling the truth in this respect.

It is nevertheless important to give this proof, because by it the peculiar nature of our intellect is revealed, of the object the study of which is the special concern of philosophy.

This proof, that the universe is the universal truth, was first attempted by philosophy in an indirect way, by casting about in vain for a metaphysical truth.

The philosopher Kant was no doubt the thinker who confined the use of understanding most strictly to the domain of experience. Now, if we recognize that this field is universal, we become aware that the assumed Kantian limitation is not a limitation at all. The human mind is a universal instrument, the special productions of which all belong to general truth. Though we make a distinction between the doubtful and the positive, the outcome of philosophy teaches us that it must be no excessive distinction, but must be backed up by the consciousness that all evidence is composed of probabilities, of phenomena of truth, of parts of truth.

The thinking understanding—this is the result of philosophy—is no more evident than anything else and derives its existence not from itself, but from the universal life. This universal life from which thought derives its perceptions, from which understanding derives its enlight-

enment, does not only exist as a general thing, but also in the form of infinitely varied individualities. And generalization, the relation of things, their number and extension, are no more, and no less, infinite than individualization and specialization. Every tree in the forest, every grain of a pile of sand, are individual, separate, distinct. Every particle of every grain of sand is distinctly individual. And the infinite individualization of nature goes so far that, just as the human individual is different every day, every hour, every moment, so is the individual grain of sand, even though its transformations were not to become noticeable until after thousands of years, by accumulated changes. By classifying this contradictory, infinitely general and infinitely individual nature in groups according to time and space, in classes, genera, families, species, orders, and other subdivisions, we are discerning and understanding.

In the universe, every group is an individual and every individual is a group. The uniformity of nature is not greater than its variety. Both of them are infinite. We distinguish between time and space. Every moment is composed of little moments. The smallest division of time cannot be denominated any more than the largest, just because there is no smallest and no largest in the universe, neither in time nor in space. Atoms are groups. As smallest parts they exist only in our thoughts and thus give excellent service in chemistry. The consciousness that they are not tangible, but only mental things, does not detract from their usefulness, but heightens it still more.

It is the nature of human intelligence to divide, classify, group. We divide the world into four cardinal points; we also divide it into two kingdoms, the kingdom

of the mind and the kingdom of nature ; the latter we again subdivide into the organic and the inorganic, or perhaps into the mineral, vegetable, and animal kingdoms. In short, science seeks to illumine the universe by division. The question then arises: Which is the genuine and true division? Where does the variety of science, its undecided vacillation end, and when does understanding become stable?

The reader should remember that the things, the objects of understanding, are not fixed, but also variable objects, and that the whole universe is moving, progressing; that especially the human mind becomes more and more affluent from century to century, from year to year, and that for this reason science is not alone compelled to fix things, but also to remain in flow. The fixed and the fluid are not so widely separated in science any more, that the evidence could not be evident and yet at the same time a little doubtful.

Man and his understanding are progressive, and for this reason he must progress by experience in his classifications, conceptions, and sciences.

The fixed, impregnable, so-called apodictical facts are nothing but tautologies, if seen at close range. After it has become common usage to call only heavy and tangible things bodies, it is an apodictical fact that all bodies are heavy and tangible. If the conceptions of vapor, water and ice are restricted by common usage and by science to the three stages of aggregation of the same substance, then we need not wonder at our firm assurance that the water will always remain fluid in all time to come, also above the stars. This signifies nothing more than that we conceive of the things as solid which we call solid, and of those as fluid which we call fluid,

but it does not change the fact that our faculty of understanding or perceiving gives us only an approximate picture of natural processes, in which the solid and the fluid are neither wholly opposed nor different, but where the positive and the negative gradually flow into one another.

The philosophers produced a very good conception of understanding by developing the concept of truth step by step and finally coming to quite exact results. But this "quite exact" must only be accepted in a reasonable sense, not in an extravagant one. Truth as the infinite, as the sum total of all things and qualities, is "in itself" quite right, but it cannot be accurately reproduced, not even by means of the mind, of reason, or understanding. The means is smaller than the purpose, is subordinate to purpose. So is our faculty of understanding only a subordinate servant of truth, of the universe. The latter is absolutely evident, true, indubitable, and positive. It does not vitiate the sublimity of this world in the least that it is veiled by appearances, by error, by untruth. On the contrary. Without sin there is no virtue, and without error there is no understanding, no truth. The negative, the weakness, the sin and error, are overcome, and thereby truth shines in full splendor. The universe, the general truth, is a progressive thing. It is absolute, but not at any fixed time or place, but only in the combined unity of all time and space.

It is sometimes said that this is too much for our intellect, that we cannot understand this. It is true that we cannot squeeze this into any of our categories, of our fundamental conceptions, unless we place the category of illimited and indeterminable and infinite truth at the beginning of them. If that is not quite clear and plain, it

should serve to teach us that the category of clear and plain human understanding is destined to recognize its function as a subordinate factor of nature.

Such an understanding of understanding, such a higher consciousness standing ever behind us, promotes a meek pride or a proud meekness which is well distinguished from the mental poverty of theologians, from the transcendental distinction between God and the world, between creator and creature. To us the perishable soul is not a narrow-minded servant for whom the plans of the imperishable monster soul are incomprehensible. A philosophically educated and self-understanding mind is a part of absolute nature. This mind is not only a limited human mind, but the mind of the infinite eternal, omnipotent universe from which it derived the faculty of knowing everything knowable. But when this mind demands the ability to absolutely know everything, it demands that knowledge should be everything, it becomes transcendental and insolent, it misconceives the relation of science to infinity. The latter is more than science, it is the object of science.

XV

CONCLUSION

The philosopher Herbart declares: "If the meaning of a word were determined by the use to which it is put by this or that person, then the term *metaphysics* would be ambiguous and scarcely comprehensible. If one wishes to know what meaning of this term has been

handed down to us by tradition, he should read the ancient metaphysicians and their followers, from Aristotle to Wolff and his school. It will then be found that the concepts of being, of its quality, of cause and effect, of space and time, have been the objects of this science everywhere . . . that it has been attempted to analyze them logically and that this has led to all sorts of disputes. These disputes . . . determined the concept of metaphysics."

Such a declaration is right enough to furnish, by the help of a little criticism on our part, a sketch of the positive outcome of philosophy.

Metaphysics has always been the principal part of philosophy. In the first sentence of his "Handbook for the Elements of Philosophy," Herbart defines philosophy as the "analysis of ideas." According to this, metaphysics would have to analyze the special ideas of being, etc. Now it must be remembered that the idea of being is not so much a special concept as the general idea which comprises all ideas and all things. Everything belongs to being, and to understand that is too much for metaphysics. Hence it came into difficulties. Now our authority has just explained to us that the concept of metaphysics was not so much determined by the work it accomplished as by disputes. It did not work, but only made the logical attempt to analyze the concept of being. In so doing it led to disputes and did not distinguish itself very much as a science. The latter, Kant has told us in his preface to his "Critique of Pure Reason," is recognized by its agreements, not by its disputes.

The metaphysical disputes were overcome by philosophic science, which is the study of ideas or understanding, by arriving at a clear and plain theory of under-

standing, the demonstration of which I have here attempted.

The faculty of understanding had been transmitted to us by our superstitious ancestors as a thing of another world. But the illusion of another world is a metaphysical one and led to disputes about the idea of being.

The positive outcome of philosophy assures us and demonstrates that there is only one world, that this world is the essence of all being, that there are many modes of being, but that they all belong to the same common nature. Thus philosophy has unified the concept of being and overcome metaphysics and its disputes.

Universal being has only one quality, the natural one of general existence. At the same time this quality is the essence of all special qualities. Just as the concept of herbs includes all herbs, even weeds, so the concept of being comprises not only that which is, but also that which is not, which was once upon a time and which will be in the future.

To free the concept of being from its metaphysical disputes, is a very difficult thing for those who attribute an extravagant meaning to the first principle of logic which says: "Any subject can have only one of two radically different predicates, because it cannot be at the same time A and not-A."

All previous science of understanding has really revolved around this statement. It is based on something plausible, but still more on misunderstanding. Only when we have become aware of what has finally been the outcome of the science of understanding, only when this statement is backed up by the positive product of philosophy, does this stubbornly maintained and much contested statement receive a lasting value by its just modification.

In the first place, a "subject" is not a fixed, but a variable concept. In the last analysis, as we have sufficiently explained in this work, there is only one sole universal subject which is nowhere radically different.

The first principle of the old and tried Aristotlean logic tells us that a man, a subject, who is lame cannot move about with alacrity. But I have a friend who was totally lame and who today jumps about briskly; there is no contradiction in this. But if I tell another man about my lame friend and in the course of my story have this lame subject all of a sudden jumping over chairs and tables, then such a thing is *inconceivable* and I contradict myself. Such a contradiction is a violation of all logic, but not because agility and lameness are totally different predicates which cannot be attributed to the same subject, nor because the contradiction cannot exist. Being is full of contradictions, but they are not simultaneous or without mediation. A logical speech or story must not forget to mediate. By mediation, all contradictions are solved. And this is the outcome of philosophy.

In discordant metaphysics, being and not being are irrèconcilable and mutually exclusive contradictions. Metaphysics is in doubt whether this common existence is real or only apparent, or whether there is not somewhere in a heaven above the clouds an entirely different life. But philosophy is now fully aware that even the most fictitious being is so positively real that any negation which appearances may attribute to it is outclassed by affirmation to the utter discomfiture of the former. Being and its affirmation is absolute, negation and not being are only relative. Being is everywhere and always dominant, so that there is no non-existence. Though we may say that this or that is nothing, yet we must remain

conscious that anything we may call nothing is still something very positive. There cannot be any ignorance which does not at least know a little. There is no evil which cannot be transformed into good. The things that have been, will be, and are, all of them are. There is no non-existence. It is at least a word, though it does not convey any meaning. The world and our language are of so positive a character that even a meaningless word still means something. Nothing cannot be expressed.

The superstition of another "true" world which floats above this world of phenomena or is secretly hidden behind it has so vitiated logic that it is now difficult to remove the discordant metaphysical "concept of being" from the human mind. The belief in something absolutely different will not easily disappear. It is especially difficult to demonstrate that conceived things are of the same nature as real things, that both of them really belong to true nature.

Conceived things are pictures, real pictures, pictures of reality. All the limbs of an imaginary dragon are copied from nature. Such creations of imagination are distinguished from truths only by their fanciful composition. To connect nature and human life according to the given order, that is the whole function of understanding. Knowing, thinking, understanding, explaining, has not, and cannot have, any other function but that of describing the processes of experience by division or classification. The famous scientist Haeckel may call this contemptuously "museum zoology" and "herbarium botany," but he simply shows that he has not grasped the secret of the intellect, but still wonders at it in a metaphysical way, the same as his predecessors.

What Darwin ascertained about the "origin of species" and about the transitions and evolutions in organic life is a very valuable expansion of museum zoology. Whoever expects anything else from the nature of intellectual faculties, shows that he is not familiar with the outcome of philosophy, that he has not emancipated himself from the vain wondering and its accompanying edification, which the wonder of human intelligence caused to primitive ignorance.

Understanding has hitherto been in error about itself and was, therefore, inadequately equipped for the task of giving a true account of its relatives, of the phenomena of nature and life. Nevertheless it has acquired training in the course of culture and has progressively accomplished better things. Its errors have never been valueless, and its truths will never be sufficient. That this is so, is not due to the defective condition of our intelligence, but to the inexhaustibleness of being, the indescribable wealth of nature.

The self-conscious, philosophically trained understanding and intelligence has now the means of knowing that the accuracy of all investigation is limited, that for this reason all its future results will be affected by error. But a science which is backed up by such an enlightened understanding, is reconciled to its limitations and transforms them into a hall of glory. Self-conscious limitation is aware of its partnership in the absolute perfection of the universe.

The self-conscious intellect improved by the positive product of philosophy knows that it can understand, describe, the whole world in a natural, sensible way. There is nothing that can resist it. But in the sense of a transcendental metaphysics, our understanding is not worthy

of that name. In return, this metaphysics is pure vagary in the eyes of critical reason.

Taking its departure from fantastical ideals, from contradictions, especially between being and not being, metaphysics has gradually transformed itself in the course of civilization and become philosophy, which in its turn has progressed step by step the same as all other science.

Philosophy was at first impelled by the nebulous desire for universal world wisdom and has finally assumed the form of a lucid special investigation of the theory of understanding.

This theory is part, and the most essential part at that, of psychology or the science of the soul. Modern psychologists have at least devined, if not recognized, that the human soul is not a metaphysical thing, but a phenomenon. Like Professor Haeckel, they also complain about the dead classification in their specialty. The human soul is presented to them as a multitude of *faculties*. There is the faculty of understanding, of feeling, of perceiving, etc., without number and end. But how is life infused into them? Where is the consistent connection?

There is, for instance, the conception and feeling of beauty in the human soul. The beautiful again is divided into the artistically beautiful and the ethically beautiful, and each of these into other subdivisions. There is beside the beautiful also the pretty, the charming, the graceful, the dignified, the noble, the solemn, the splendid, the pathetic, the touching. Psychology also treats of the ridiculous, of the joke, the wit, the satire, the irony, the humor, of a thousand subtleties and distinctions, the

ideological separation of which it attempts just as do botany, zoology, and every other science in their field.

To all of them, being is the object of study. What is the use of metaphysics under these circumstances? Only because it had in mind a different being, a transcendental one, could it induce Kant to sum up all his studies in the question: How is metaphysics possible as a science?

It is the merit of philosophy to have demonstrated that metaphysics is possible only as fantastical speculation.

It is the business of metaphysics to treat being transcendently. It is the business of special sciences to classify being after the manner of herbarium botany. Classical order is already present in the vegetable kingdom, otherwise no specialist in botany could classify it.

But the objective arrangement of the vegetable kingdom in infinitely more multiform than the subjective arrangement of botany. The latter is always excellent, if it corresponds to the scientific progress of its period. Whoever is looking for absolute botany or psychology, or for any other absolute science, misunderstands the universally natural character of the absolute as well as the relative special character of the human faculty of understanding.

Philosophy familiar with its historical achievement **understands** being as the infinite material of life and science which is taken up by the special sciences and classified by them. It **teaches** the specialists to remember throughout all their classifications according to departments and concepts that all specialties are connected by life and not so separated in life as they are in science, but that they are flowing and passing into one another.

Thus our science of understanding finally culminates in the rule: Thou shalt sharply divide and subdivide and farther subdivide to the utmost the universal concept, the concept of the universe, but thou shalt be backed up by the consciousness that this mental classification is a formality by which man seeks for the sake of his information to register and to place his experience; thou shalt furthermore remain aware of thy liberty to progressively improve the experience acquired by thyself in the course of time, by modifying thy classification.

Things are ideas, ideas are names, and things, ideas, and names are subject to continuous perfection.

Stable motion and mobile stability constitute the reconciling contradiction which enables us to reconcile all contradictions.

THE END

